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Jack Schwager's Guide to Winning *with* Automated Trading Systems

Course Manual

Jack Schwager

An Overview of Trading Systems - And Why You Should Use Them

***The Most Important Lesson
of the Market Wizards***

Benefits of a Mechanical Trading System

Six basic advantages of trading systems:

- Eliminates emotion
- Eliminates need for constant decision making
- Ensures consistency of approach
- Risk control
- Same approach can be applied to many markets
- Approach can be tested for statistical reliability

Defining and Illustrating the Leading Types of Trading Systems

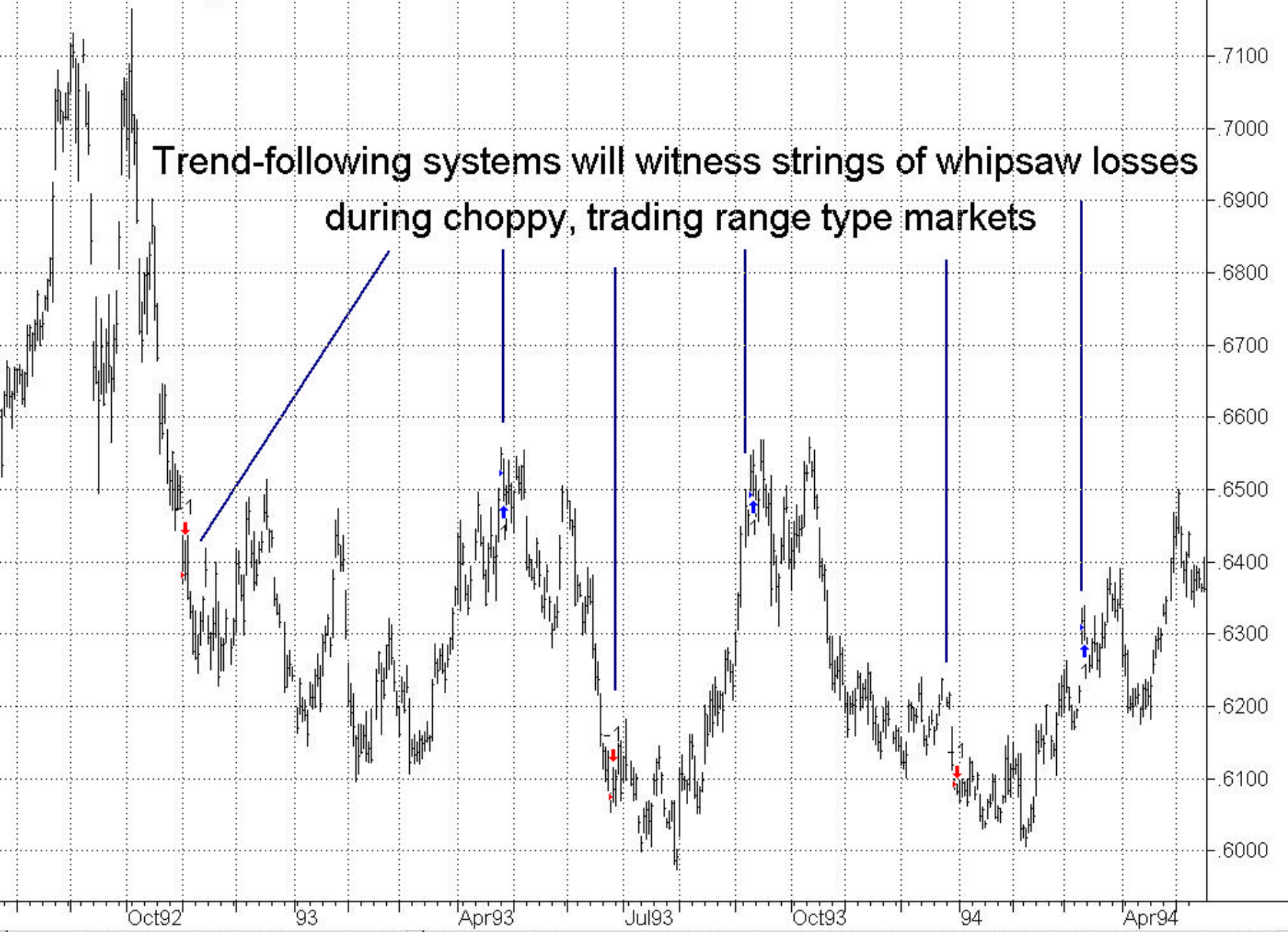
80 Day Breakout System

Close lower than lowest
low during past 80 days

System works very well when
there are sustained trends



Trend-following systems will witness strings of whipsaw losses during choppy, trading range type markets





80 Day Breakout



DEUTSCHE MARK
DEUTSCHE MARK

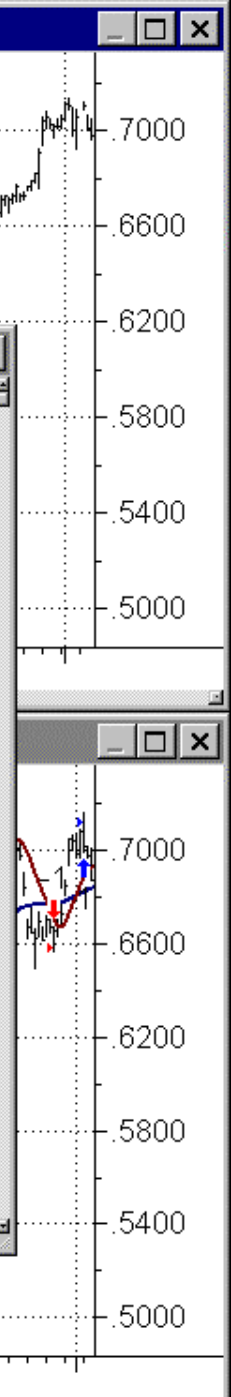


System Report: Performance Summary

jsbreakout DEUTSCHE MARK-Daily 01/02/90 - 12/31/97

Performance Summary: All Trades

Total net profit	\$ 20275.00	Open position P/L	\$ 0.00
Gross profit	\$ 44300.00	Gross loss	\$ -24025.00
Total # of trades	11	Percent profitable	45%
Number winning trades	5	Number losing trades	6
Largest winning trade	\$ 15725.00	Largest losing trade	\$ -5662.50
Average winning trade	\$ 8860.00	Average losing trade	\$ -4004.17
Ratio avg win/avg loss	2.21	Avg trade(win & loss)	\$ 1843.18
Max consec. winners	3	Max consec. losers	5
Avg # bars in winners	311	Avg # bars in losers	63
Max intraday drawdown	\$ -22212.50		
Profit factor	1.84	Max # contracts held	1
Account size required	\$ 22212.50	Return on account	91%



CALCULATING A MOVING AVERAGE

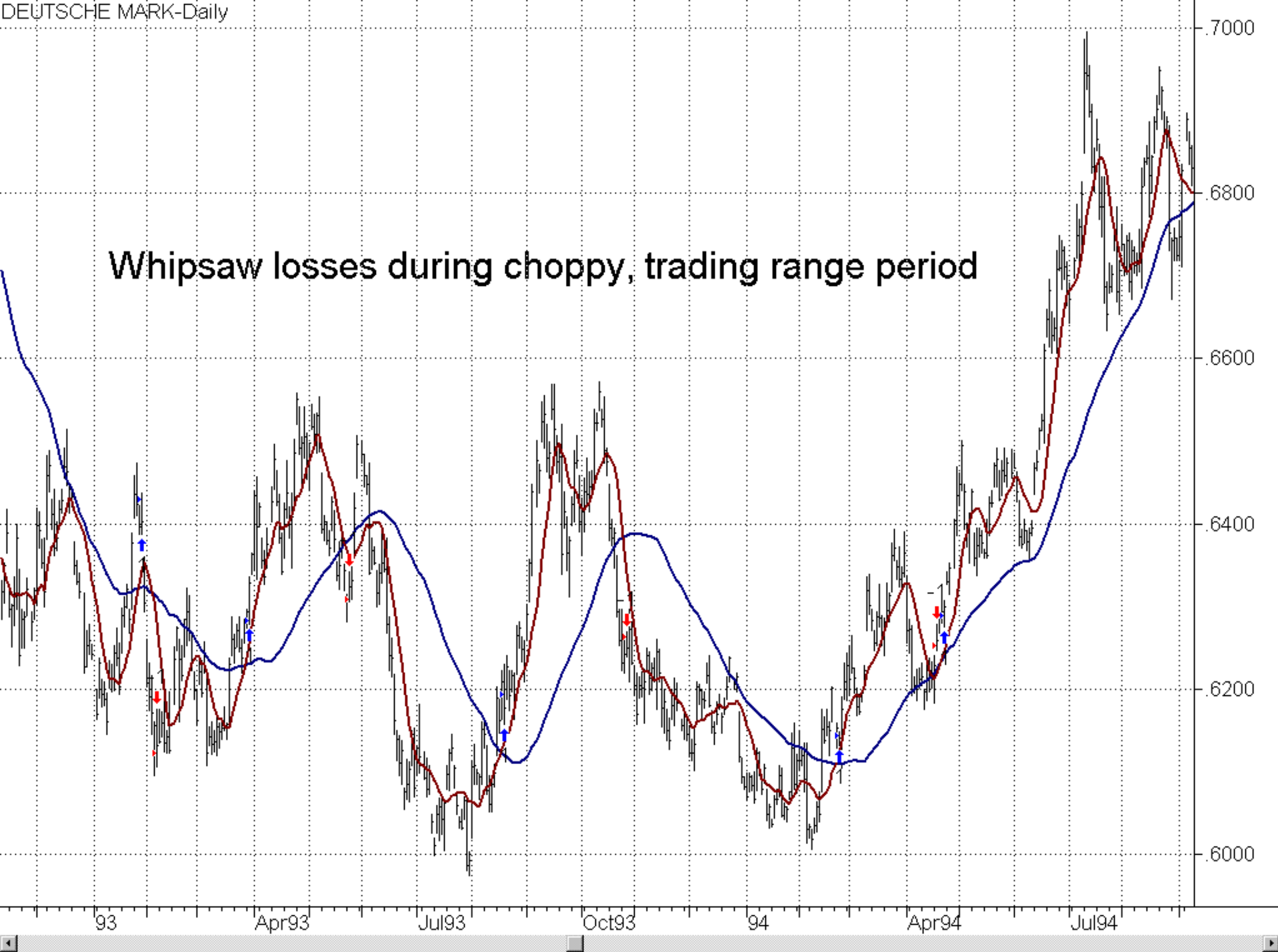
Day	Closing Price	3-Day Moving Avg.	10-Day Moving Avg.	Difference	Signal
1	8050				
2	8100				
3	8190	8113.3			
4	8140	8143.3			
5	8310	8213.3			
6	8260	8236.7			
7	8220	8263.3			
8	8310	8263.3			
9	8440	8323.3			
10	8520	8423.3	8254.0	169.3	
11	8460	8473.3	8295.0	178.3	
12	8390	8456.7	8324.0	132.7	
13	8440	8430.0	8349.0	81.0	
14	8520	8450.0	8387.0	63.0	
15	8610	8523.3	8417.0	106.3	
16	8540	8556.7	8445.0	111.7	
17	8410	8520.0	8464.0	56.0	
18	8350	8433.3	8468.0	-34.7	SELL
19	8390	8383.3	8463.0	-79.7	
20	8310	8350.0	8442.0	-92.0	
21	8280	8326.7	8424.0	-97.3	
22	8420	8336.7	8427.0	-90.3	
23	8510	8403.3	8434.0	-30.7	
24	8620	8516.7	8444.0	72.7	BUY

Crossover Moving Average (10/50)



Works well in trending period







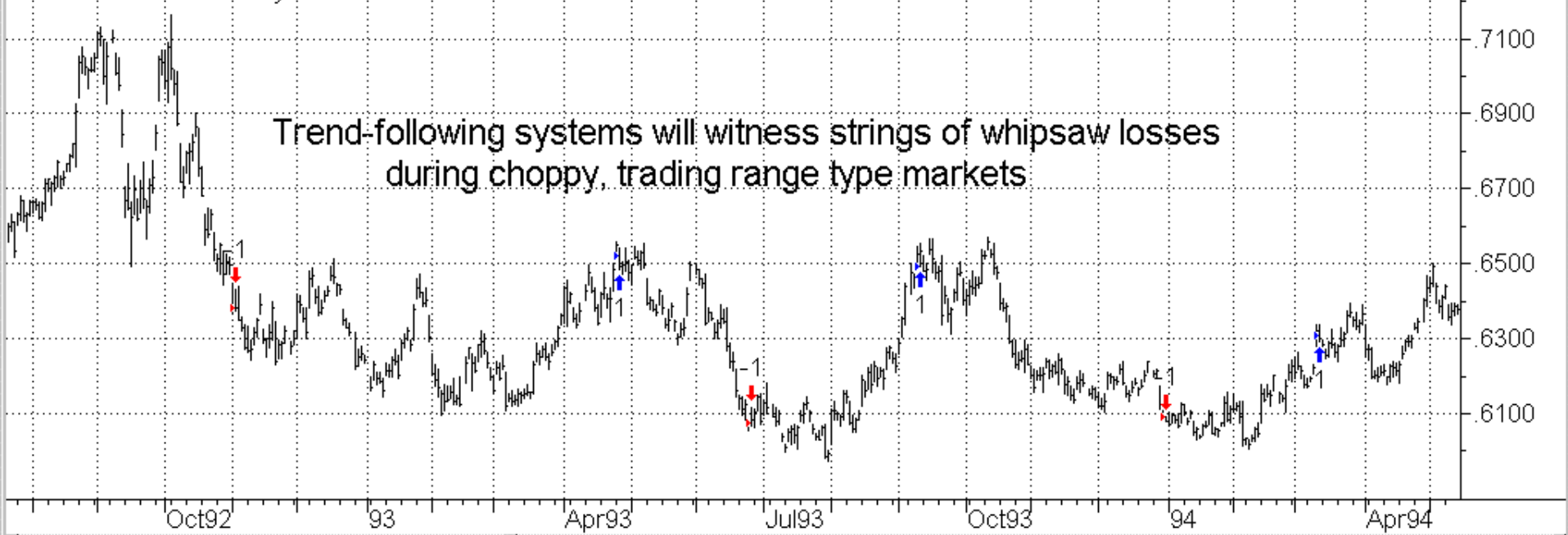
80-Day Breakout



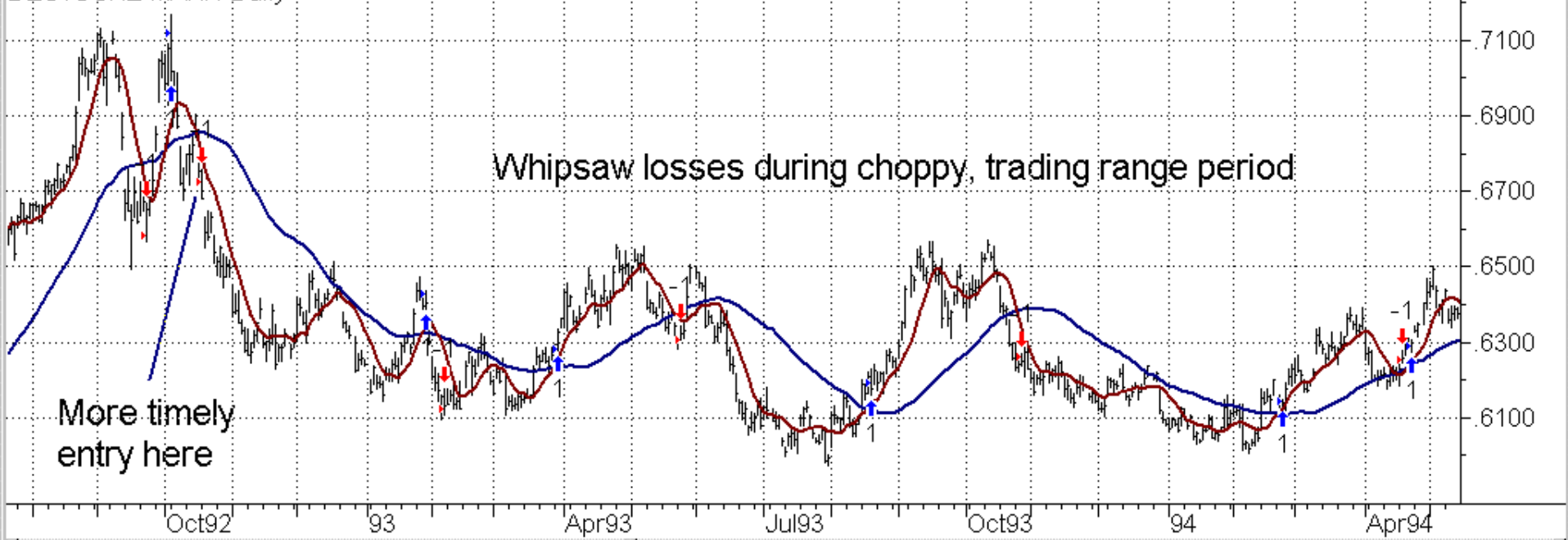
Crossover Moving Average (10/50)



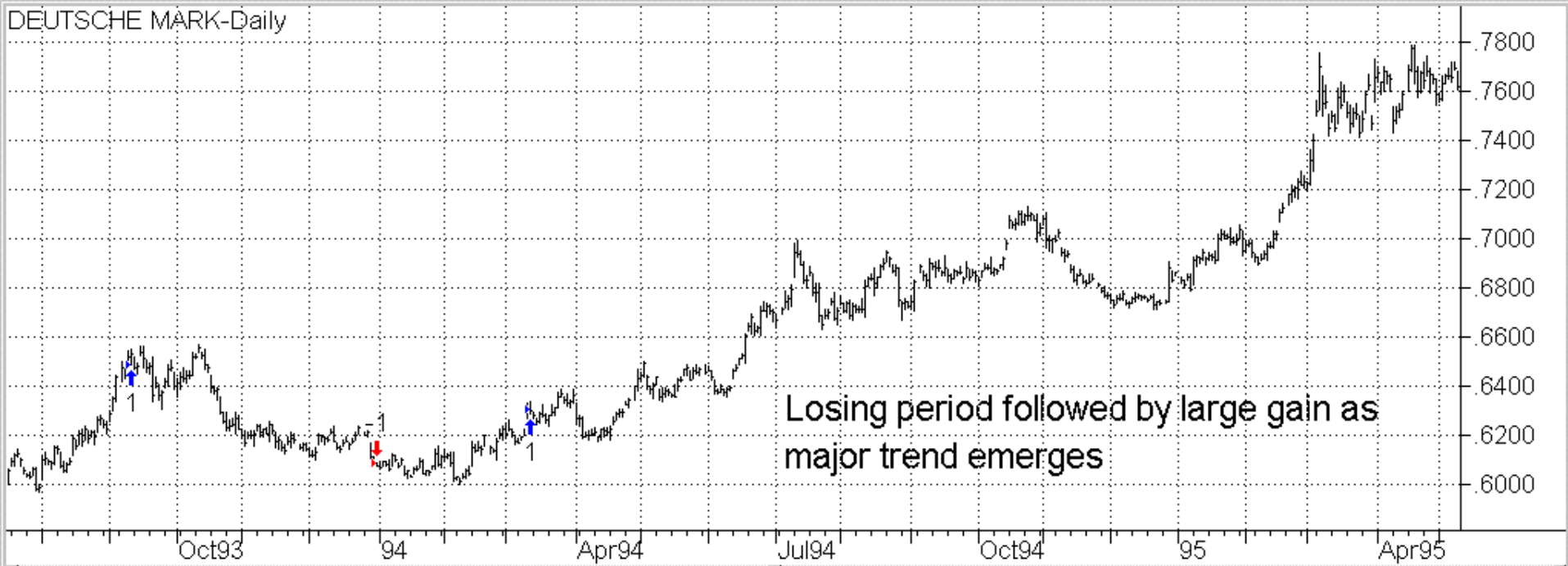
DEUTSCHE MARK-Daily



DEUTSCHE MARK-Daily



DEUTSCHE MARK-Daily



DEUTSCHE MARK-Daily



80 Day Breakout



DEUTSCHE MARK
DEUTSCHE MARK

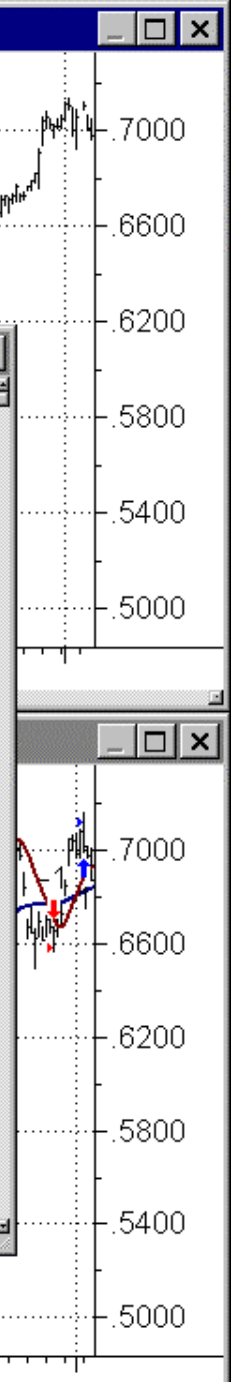
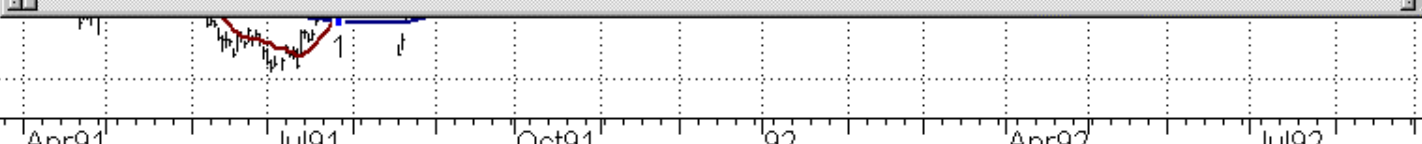


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Profit factor	1.84	Max # contracts held	1
Account size required	\$ 22212.50	Return on account	91%



System Report: Performance Summary



jsxoverma DEUTSCHE MARK-Daily 01/02/90 - 12/31/97

Performance Summary: All Trades

Total net profit	\$ 30200.00	Open position P/L	\$ 0.00
Gross profit	\$ 71375.00	Gross loss	\$ -41175.00
Total # of trades	40	Percent profitable	53%
Number winning trades	21	Number losing trades	19
Largest winning trade	\$ 8837.50	Largest losing trade	\$ -6775.00
Average winning trade	\$ 3398.81	Average losing trade	\$ -2167.11
Ratio avg win/avg loss	1.57	Avg trade(win & loss)	\$ 755.00
Max consec. winners	5	Max consec. losers	2
Avg # bars in winners	75	Avg # bars in losers	19
Max intraday drawdown	\$ -16262.50		
Profit factor	1.73	Max # contracts held	1
Account size required	\$ 16262.50	Return on account	186%

DEU

DEU



Breakout (N=80)

Because of strong upward bias,
buys tend to do very well



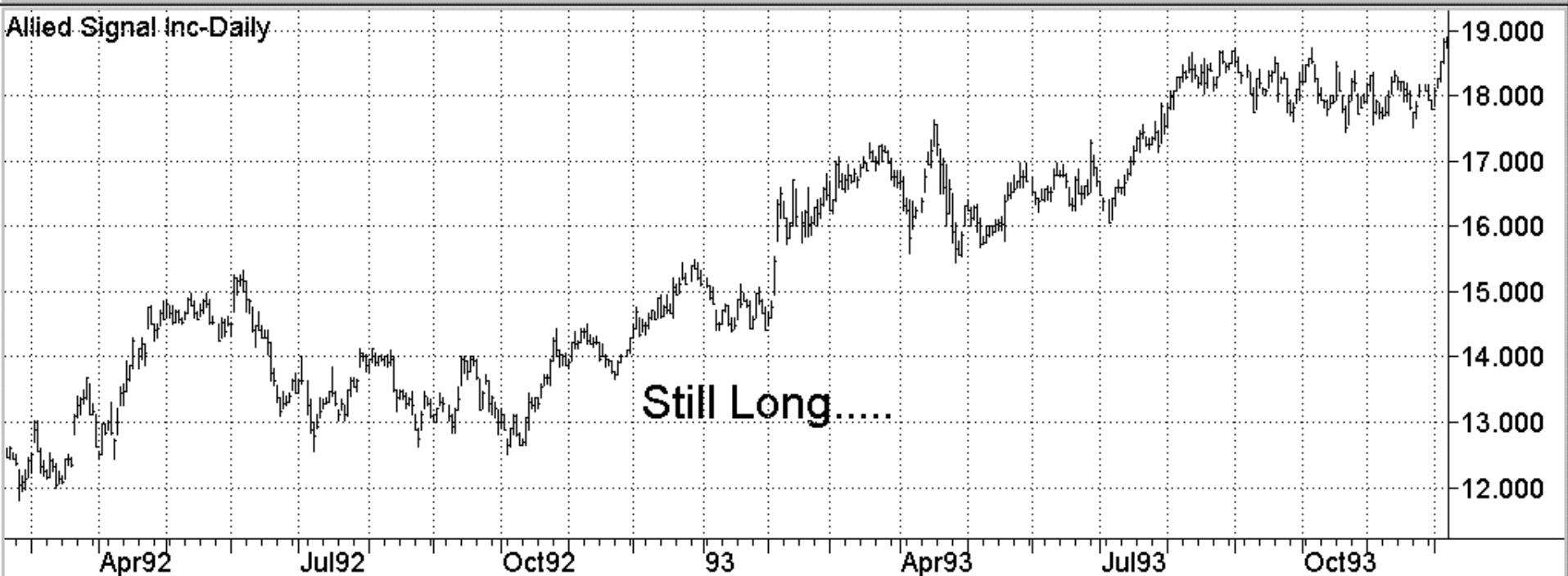
Breakout (N=80)--Buys Only



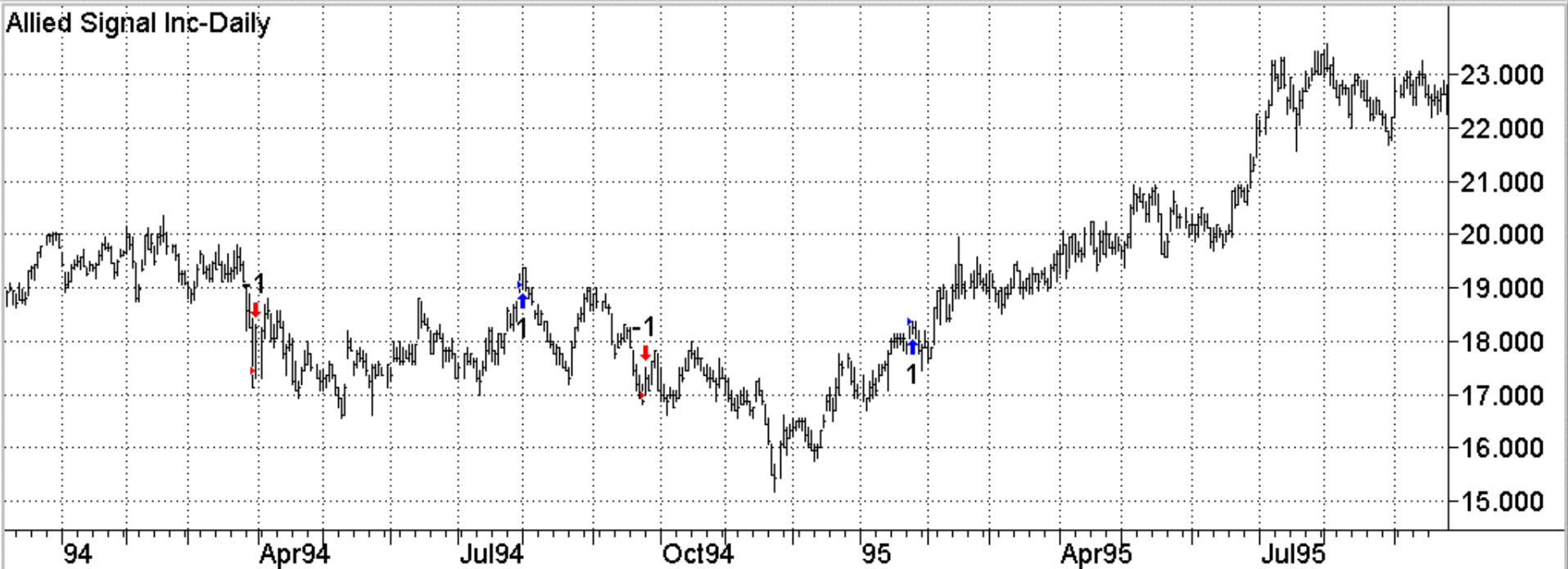
Allied Signal Inc-Daily



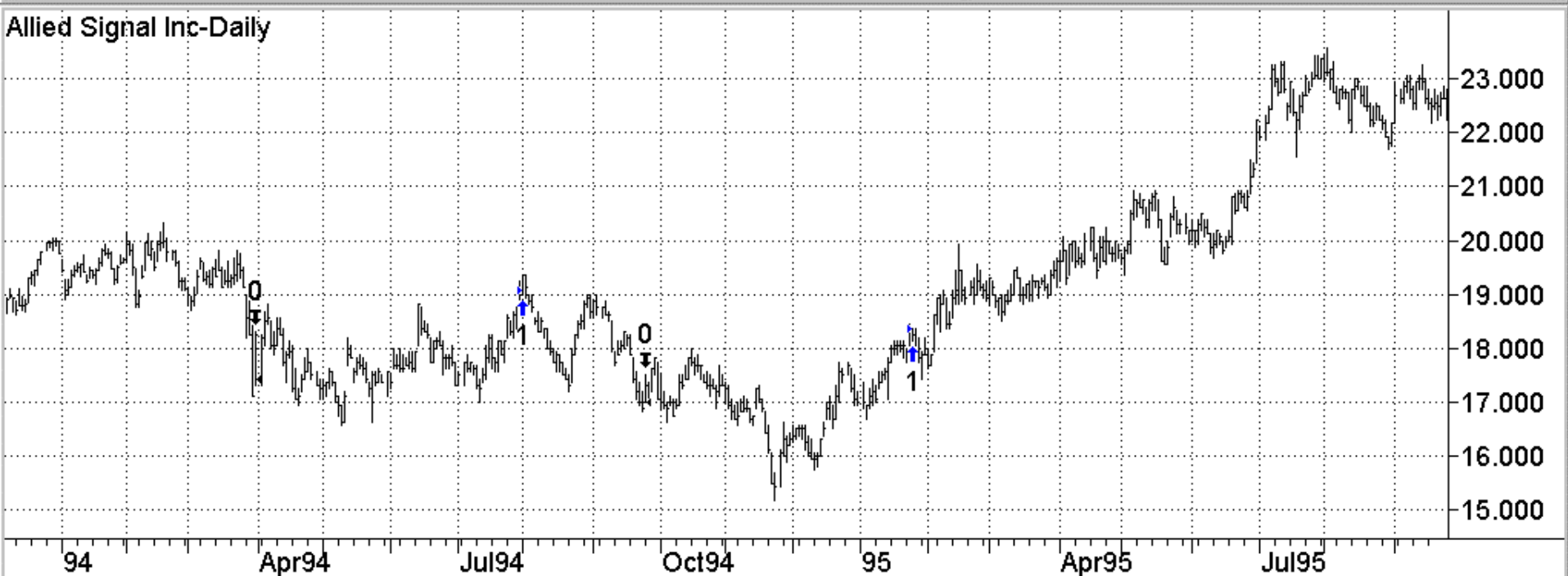
Allied Signal Inc-Daily



Allied Signal Inc-Daily



Allied Signal Inc-Daily



Allied Signal Inc-Daily



Allied Signal Inc-Daily



Allied Signal Inc-Daily



Allied Signal Inc-Daily



System Report: Performance Summary

jsbreakoutStock1 Allied Signal Inc-Daily 10/26/89 - 04/01/98

Performance Summary: All Trades

Total net profit	\$ 24.03	Open position P/L	\$ 0.00
Gross profit	\$ 27.50	Gross loss	\$ -3.47
Total # of trades	5	Percent profitable	60%
Number winning trades	3	Number losing trades	2
Largest winning trade	\$ 16.00	Largest losing trade	\$ -2.31
Average winning trade	\$ 9.17	Average losing trade	\$ -1.73
Ratio avg win/avg loss	5.29	Avg trade(win & loss)	\$ 4.81
Max consec. winners	2	Max consec. losers	1
Avg # bars in winners	489	Avg # bars in losers	43
Max intraday drawdown	\$ -3.25	Max # contracts held	1
Profit factor	7.93	Return on account	739%
Account size required	\$ 3.25		

Breakout (N=80)--Buys Only

Breakout (N=80)

System Report: Performance Summary

jsbreakout Allied Signal Inc-Daily 10/26/89 - 04/01/98

Performance Summary: Long Trades

Total net profit	\$ 24.03	Open position P/L	\$ 0.00
Gross profit	\$ 27.50	Gross loss	\$ -3.47
Total # of trades	5	Percent profitable	60%
Number winning trades	3	Number losing trades	2
Largest winning trade	\$ 16.00	Largest losing trade	\$ -2.31
Average winning trade	\$ 9.17	Average losing trade	\$ -1.73
Ratio avg win/avg loss	5.29	Avg trade(win & loss)	\$ 4.81
Max consec. winners	2	Max consec. losers	1
Avg # bars in winners	489	Avg # bars in losers	43
Max intraday drawdown	\$ -3.25		
Profit factor	7.93	Max # contracts held	1
Account size required	\$ 3.25	Return on account	739%

***An Alternative
Approach -
Counter-Trend
Systems***



ADTR Band Counter-trend (60-day; $k = 3$)

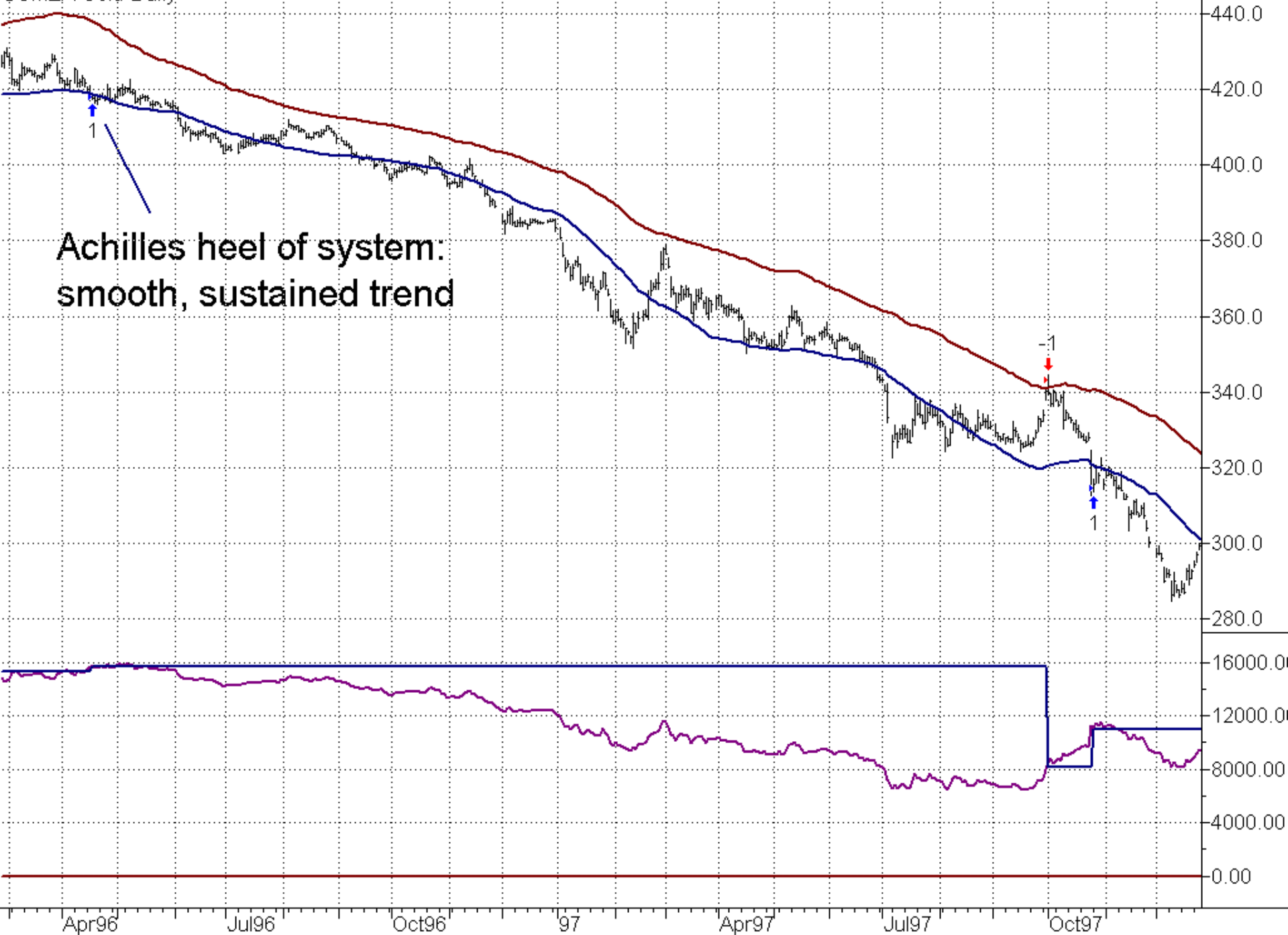




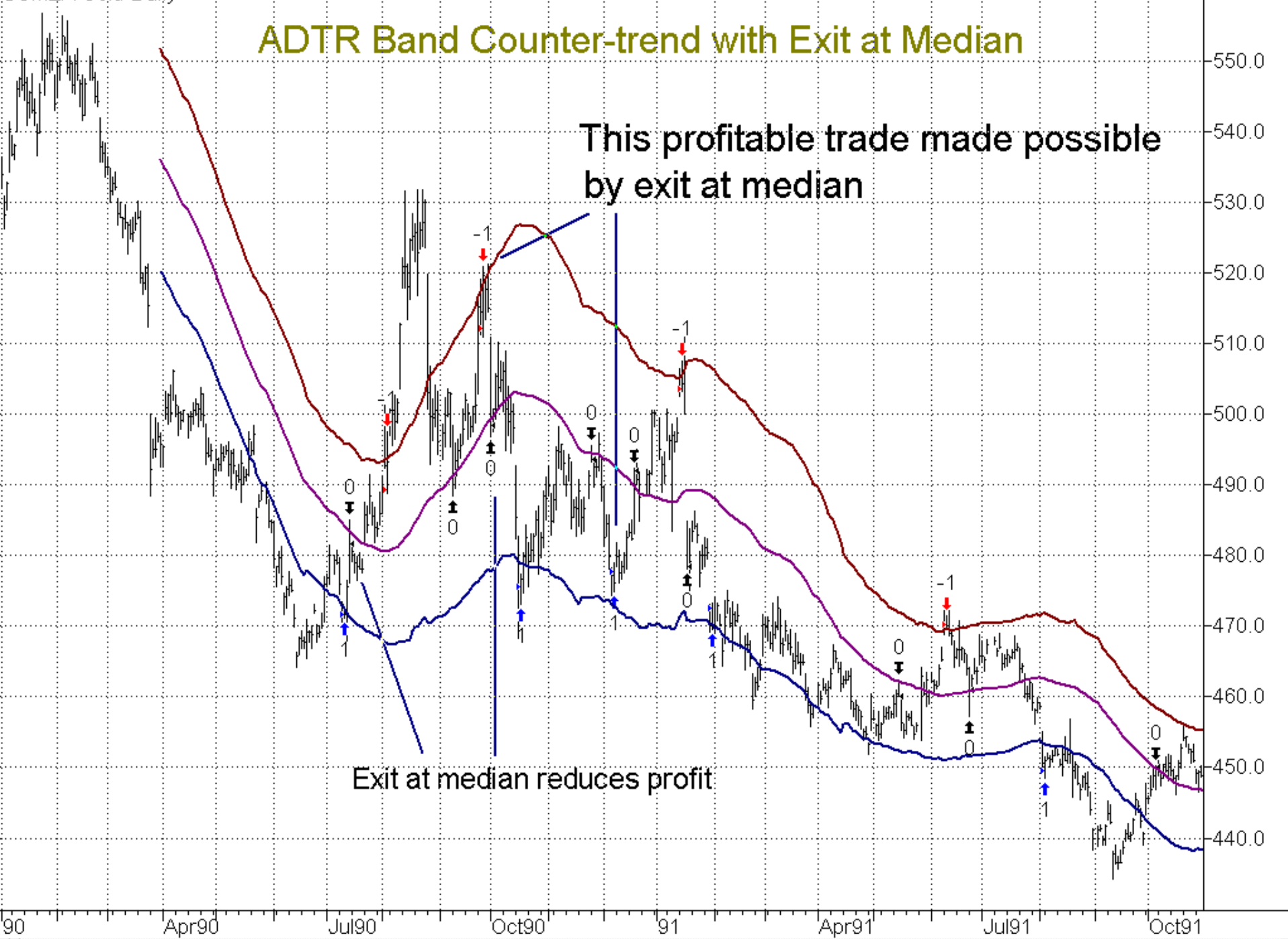


Choppy trading range is ideal condition
for this system as both buy and sell
signals generage significant profits





ADTR Band Counter-trend with Exit at Median

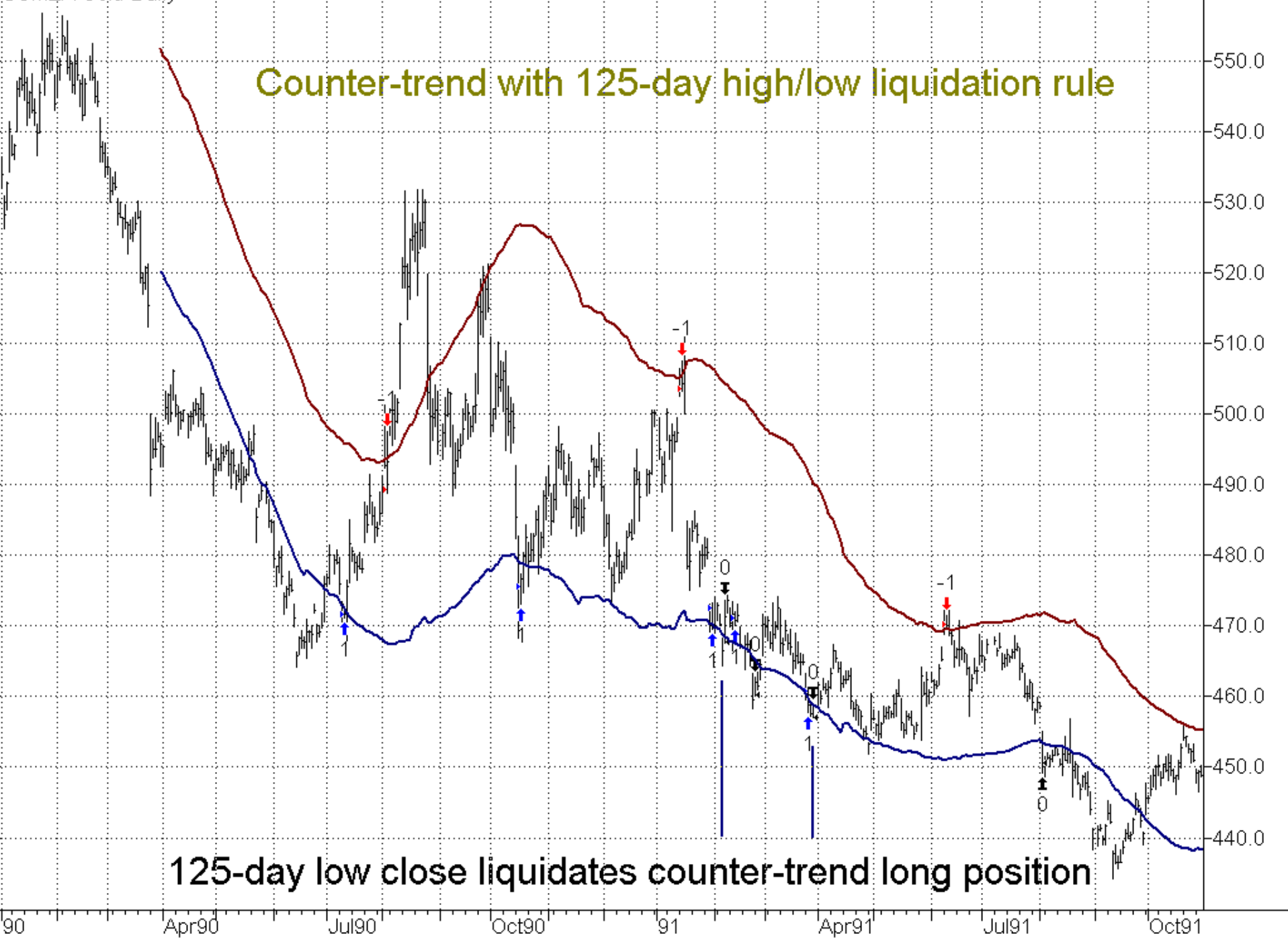


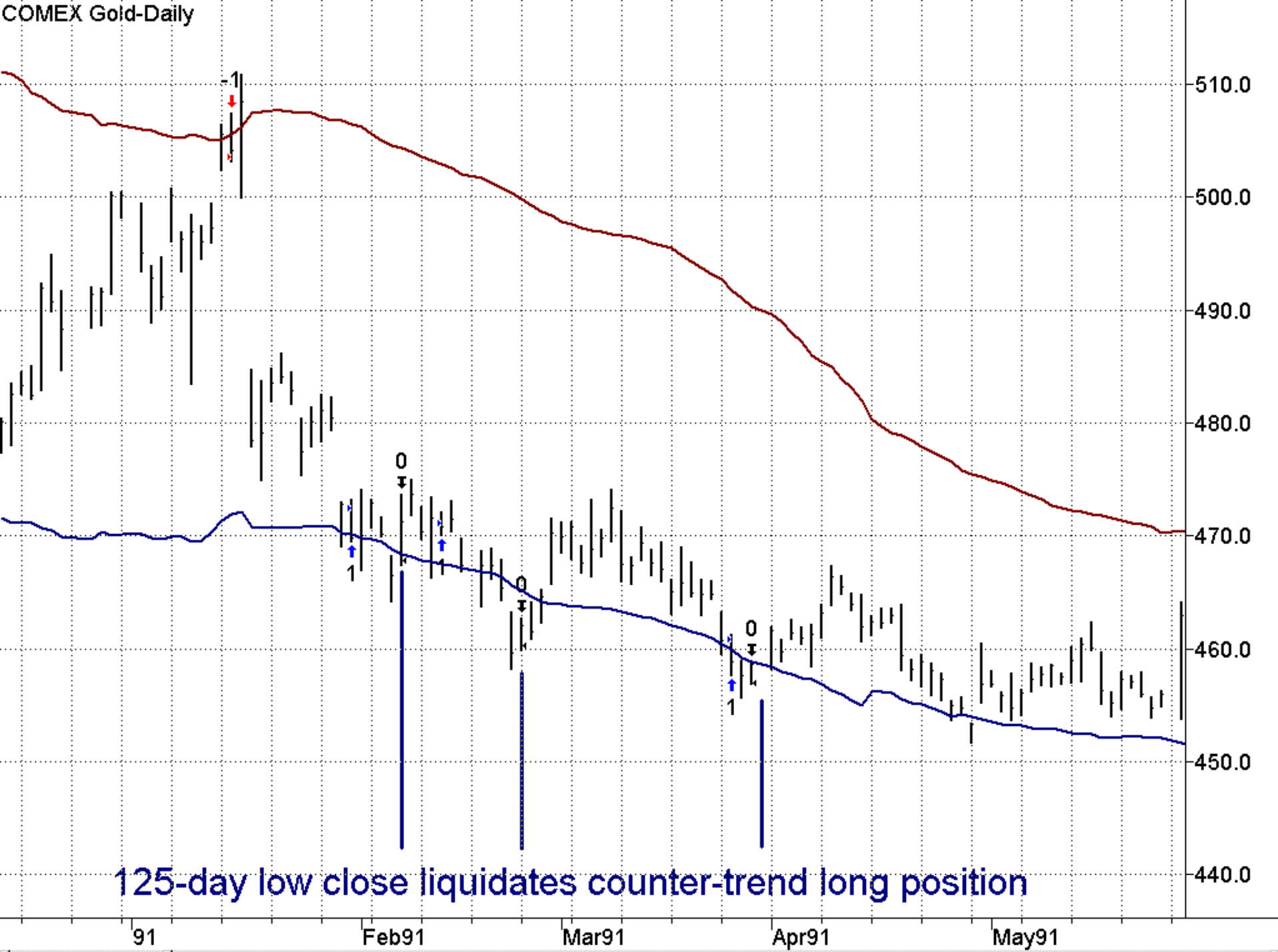
Exit at median significantly reduces
profit during choppy trading range

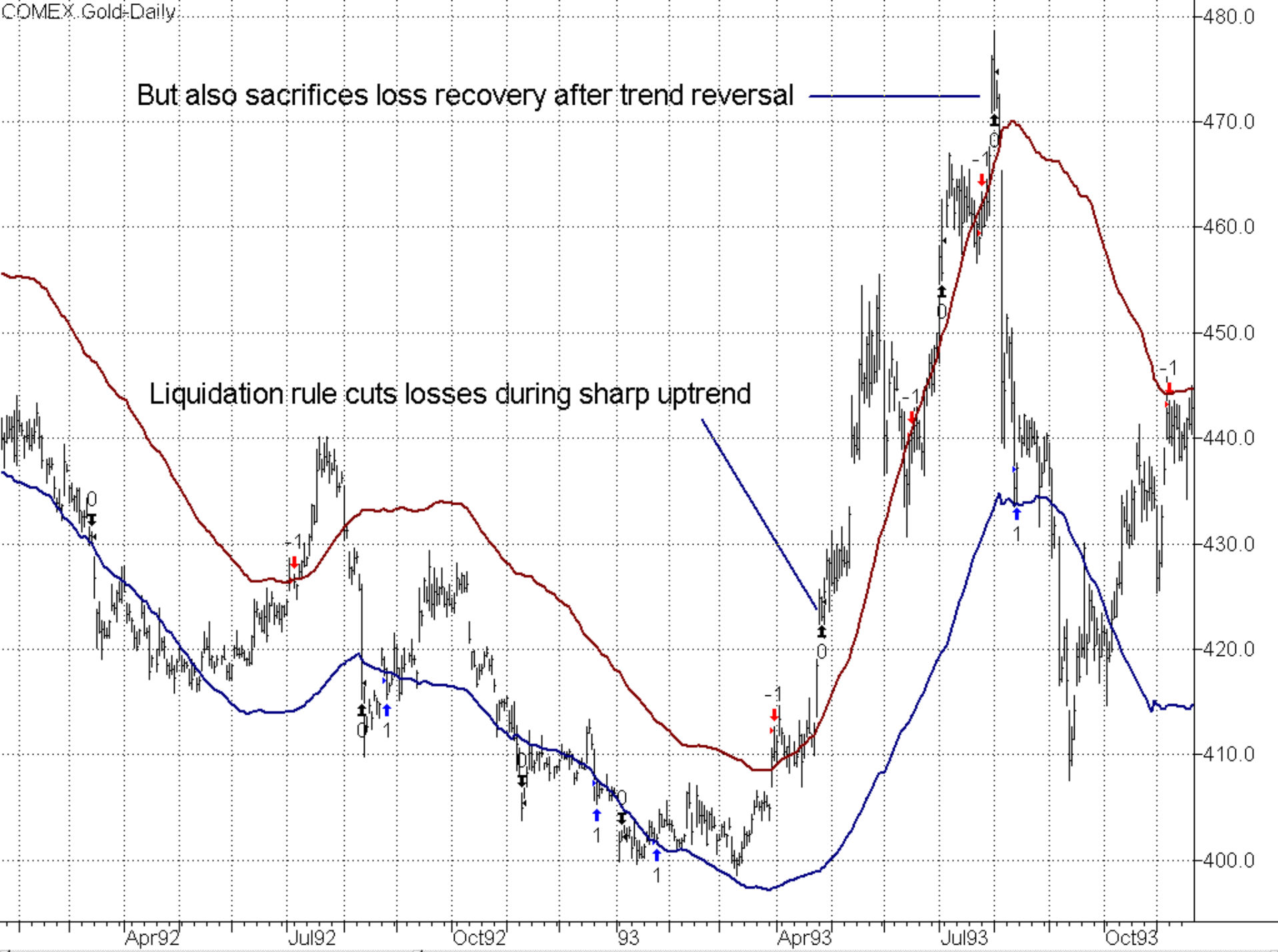




Counter-trend with 125-day high/low liquidation rule













Counter-trend with 125-day high/low liquidation rule & 50-day filter screen

(e.g., no buy if 125-day low close occurred within past 50 days)



Filter eliminates new sell
signals at these points





Note: filter avoids repeated buy re-entries
during this period





jsmaband3 COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 8660.00	Open position P/L	\$ 0.00
Gross profit	\$ 23720.00	Gross loss	\$ -15060.00
Total # of trades	25	Percent profitable	72%
Number winning trades	18	Number losing trades	7
Largest winning trade	\$ 3060.00	Largest losing trade	\$ -7530.00
Average winning trade	\$ 1317.78	Average losing trade	\$ -2151.43
Ratio avg win/avg loss	0.61	Avg trade(win & loss)	\$ 346.40

Max consec. winners

6

Avg # bars in winners

50

Max intraday drawdown

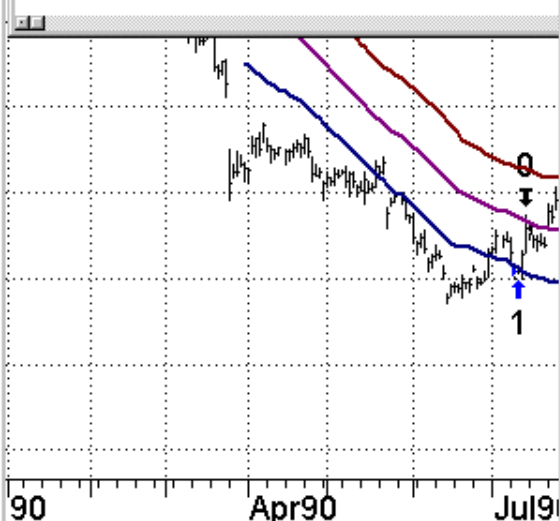
\$ -953

Profit factor

1.15

Account size required

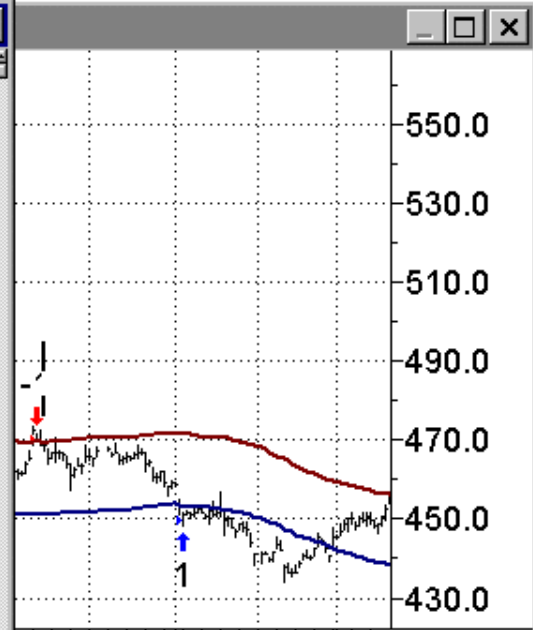
\$ 953



jsmaband3A COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 2410.00	Open position P/L	\$ 0.00
Gross profit	\$ 18310.00	Gross loss	\$ -15900.00
Total # of trades	37	Percent profitable	59%
Number winning trades	22	Number losing trades	15
Largest winning trade	\$ 2470.00	Largest losing trade	\$ -3350.00
Average winning trade	\$ 832.27	Average losing trade	\$ -1060.00
Ratio avg win/avg loss	0.79	Avg trade(win & loss)	\$ 65.14
Max consec. winners	6	Max consec. losers	4
Avg # bars in winners	13	Avg # bars in losers	60
Max intraday drawdown	\$ -8920.00	Max # contracts held	1
Profit factor	1.15	Return on account	27%
Account size required	\$ 8920.00		



System Report: Performance Summary



jsmaband3 COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 8660.00	Open position P/L	\$ 0.00
Gross profit	\$ 23720.00	Gross loss	\$ -15060.00
Total # of trades	25	Percent profitable	72%
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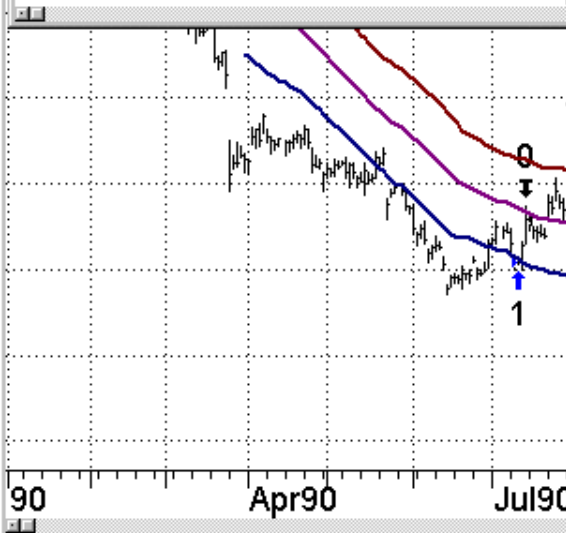


Max consec. winners	6
Avg # bars in winners	50
Max intraday drawdown	\$ -953
Profit factor	1.5
Account size required	\$ 953

jsmaband COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 12900.00	Open position P/L	\$ 0.00
Gross profit	\$ 27540.00	Gross loss	\$ -14640.00
Total # of trades	37	Percent profitable	51%
Number winning trades	19	Number losing trades	18
Largest winning trade	\$ 3060.00	Largest losing trade	\$ -1910.00
Average winning trade	\$ 1449.47	Average losing trade	\$ -813.33
Ratio avg win/avg loss	1.78	Avg trade(win & loss)	\$ 348.65



Max consec. winners	6	Max consec. losers	5
Avg # bars in winners	42	Avg # bars in losers	20
Max intraday drawdown	\$ -8620.00	Max # contracts held	1
Profit factor	1.88	Return on account	150%
Account size required	\$ 8620.00		

System Report: Performance Summary

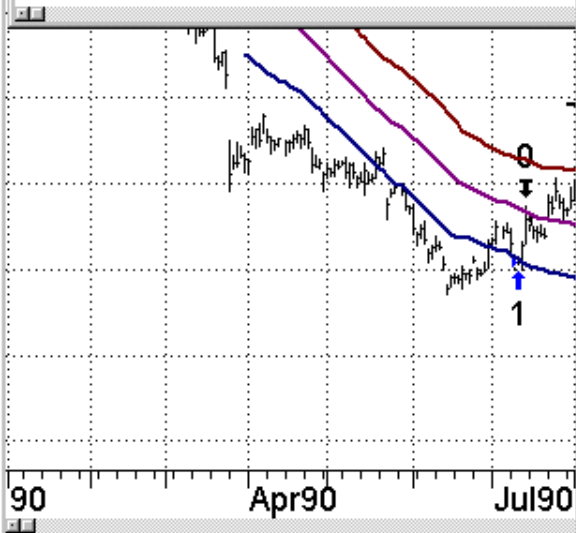


jsmaband3 COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 8660.00	Open position P/L	\$ 0.00
Gross profit	\$ 23720.00	Gross loss	\$ -15060.00
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Number winning trades	18	Number losing trades	7
Largest winning trade	\$ 3060.00	Largest losing trade	\$ -7530.00
Average winning trade	\$ 1317.78	Average losing trade	\$ -2151.43
Ratio avg win/avg loss	0.61	Avg trade(win & loss)	\$ 346.40

Max consec. winners	6
Avg # bars in winners	50
Max intraday drawdown	\$ -9530.00
Profit factor	1.5
Account size required	\$ 9530.00



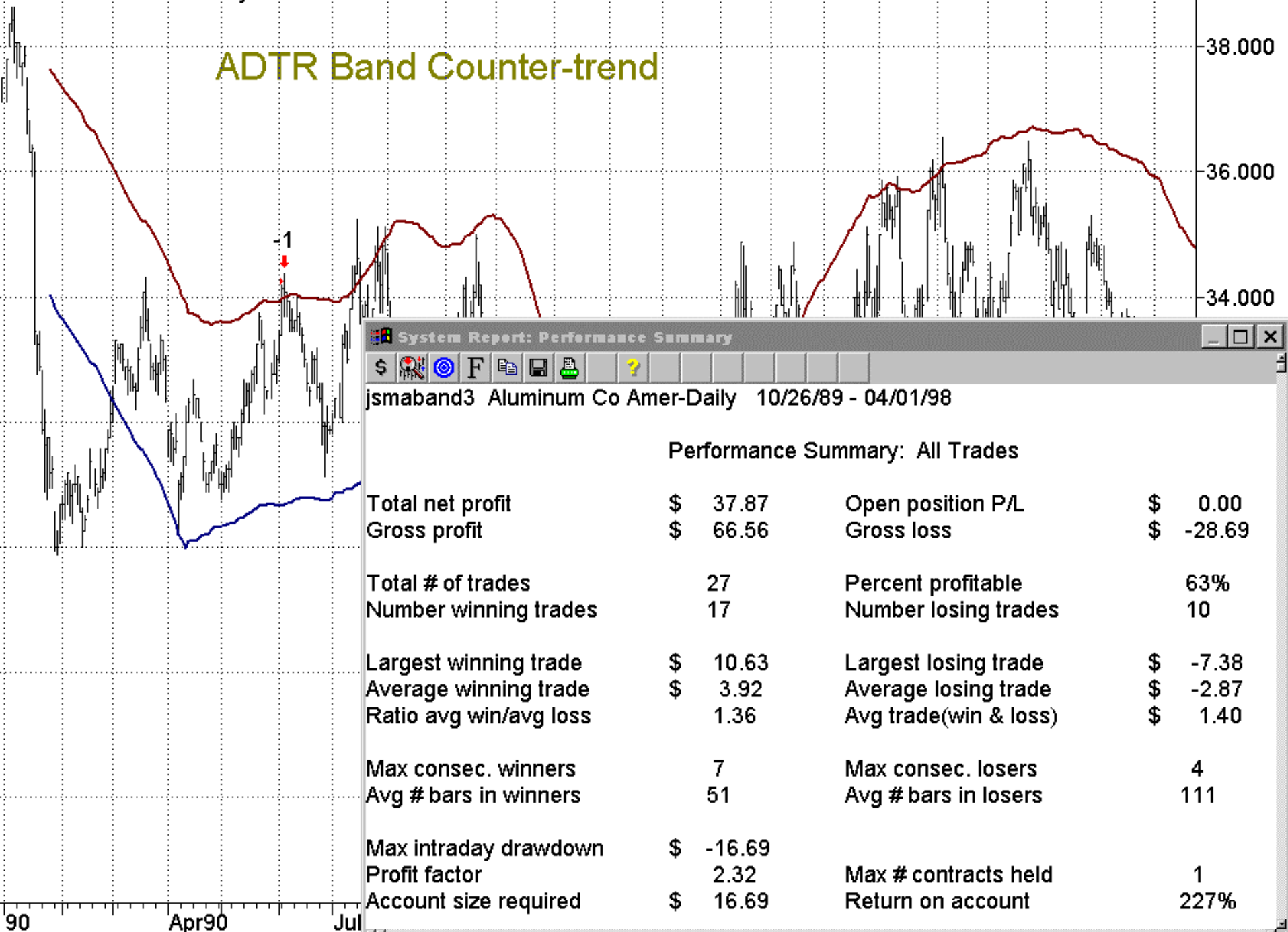
jsmaband2B COMEX Gold-Daily 01/02/90 - 03/20/98

Performance Summary: All Trades

Total net profit	\$ 21380.00	Open position P/L	\$ 0.00
Gross profit	\$ 27680.00	Gross loss	\$ -6300.00
Total # of trades	23	Percent profitable	65%
Number winning trades	15	Number losing trades	8
Largest winning trade	\$ 3990.00	Largest losing trade	\$ -1270.00
Average winning trade	\$ 1845.33	Average losing trade	\$ -787.50
Ratio avg win/avg loss	2.34	Avg trade(win & loss)	\$ 929.57

Max consec. winners	6	Max consec. losers	3
Avg # bars in winners	43	Avg # bars in losers	25
Max intraday drawdown	\$ -5230.00	Max # contracts held	1
Profit factor	4.39	Return on account	409%
Account size required	\$ 5230.00		

ADTR Band Counter-trend



System Report: Performance Summary

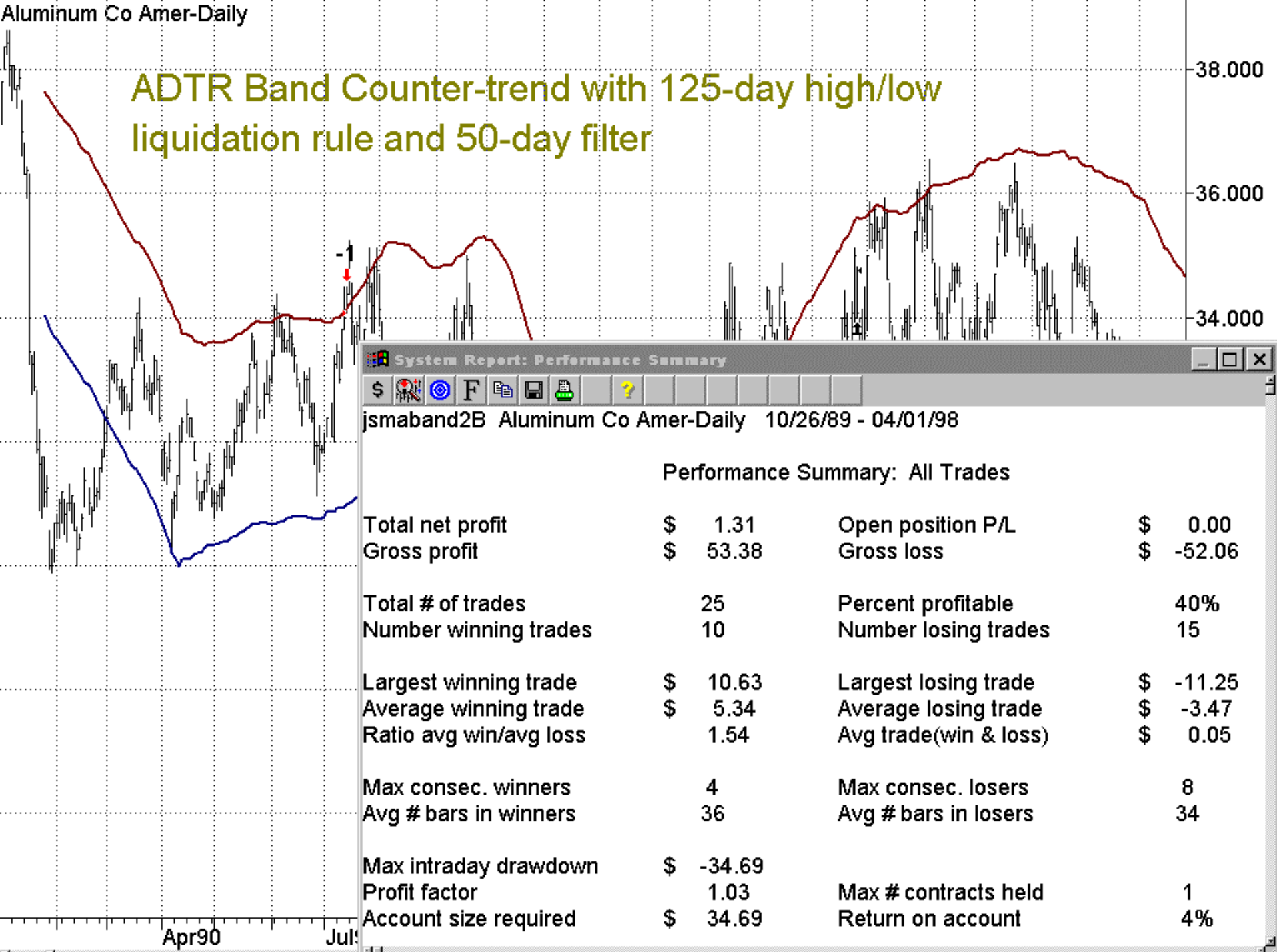
System Report: Performance Summary

jsmaband3 Aluminum Co Amer-Daily 10/26/89 - 04/01/98

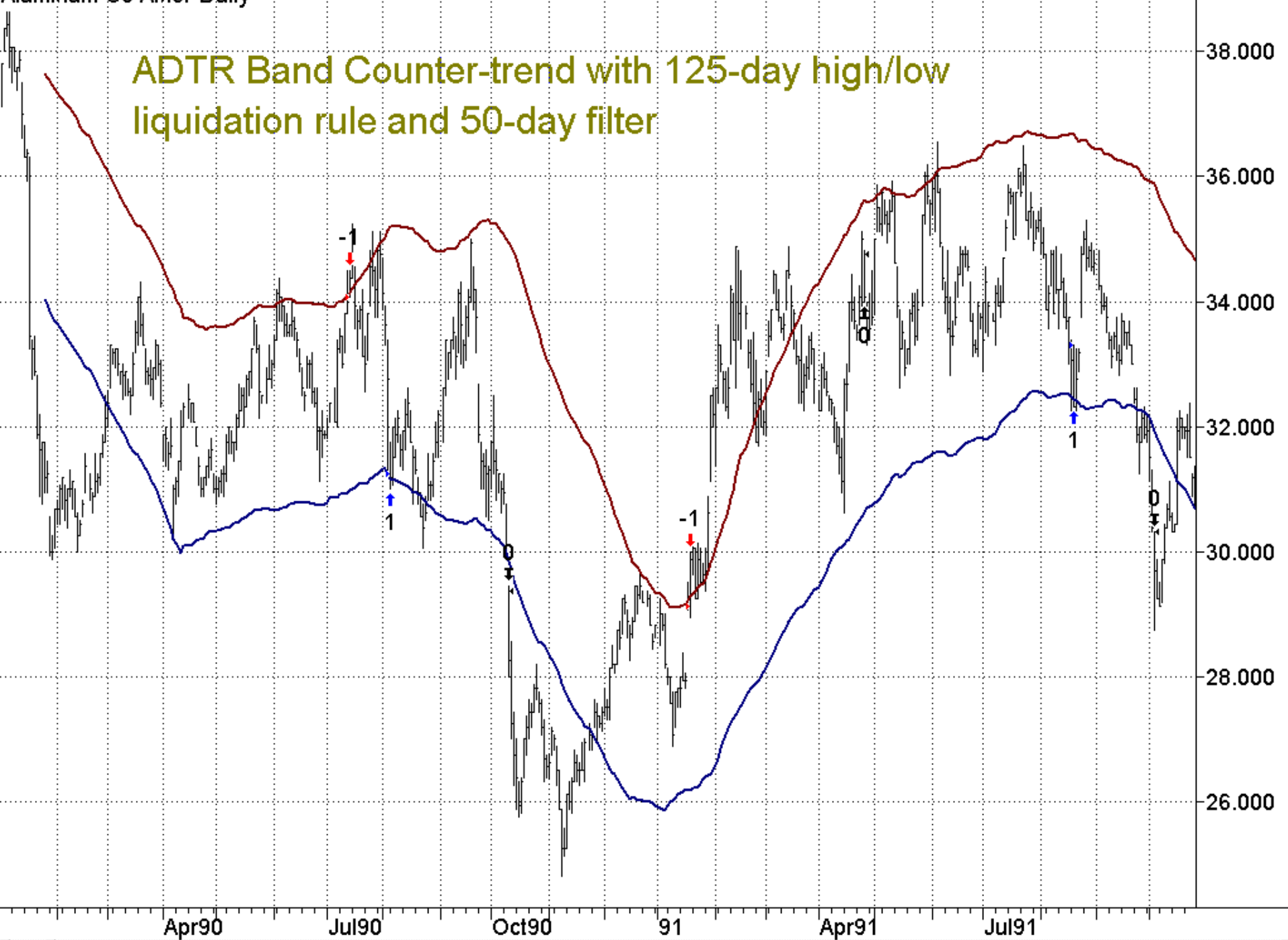
Performance Summary: All Trades

Total net profit	\$ 37.87	Open position P/L	\$ 0.00
Gross profit	\$ 66.56	Gross loss	\$ -28.69
Total # of trades	27	Percent profitable	63%
Number winning trades	17	Number losing trades	10
Largest winning trade	\$ 10.63	Largest losing trade	\$ -7.38
Average winning trade	\$ 3.92	Average losing trade	\$ -2.87
Ratio avg win/avg loss	1.36	Avg trade(win & loss)	\$ 1.40
Max consec. winners	7	Max consec. losers	4
Avg # bars in winners	51	Avg # bars in losers	111
Max intraday drawdown	\$ -16.69		
Profit factor	2.32	Max # contracts held	1
Account size required	\$ 16.69	Return on account	227%

ADTR Band Counter-trend with 125-day high/low
liquidation rule and 50-day filter



ADTR Band Counter-trend with 125-day high/low
liquidation rule and 50-day filter



Aluminum Co Amer-Daily



Stops knock out good trades



Again, stops are turning potential winning trades into losers

Aluminum Co Amer-Daily

Even during this trending phase, stops don't provide much benefit because choppiness of trend allows for near equivalent counter-trend exits



Taking Advantage of Charts by Using Pattern Systems



Gap System (1-day)

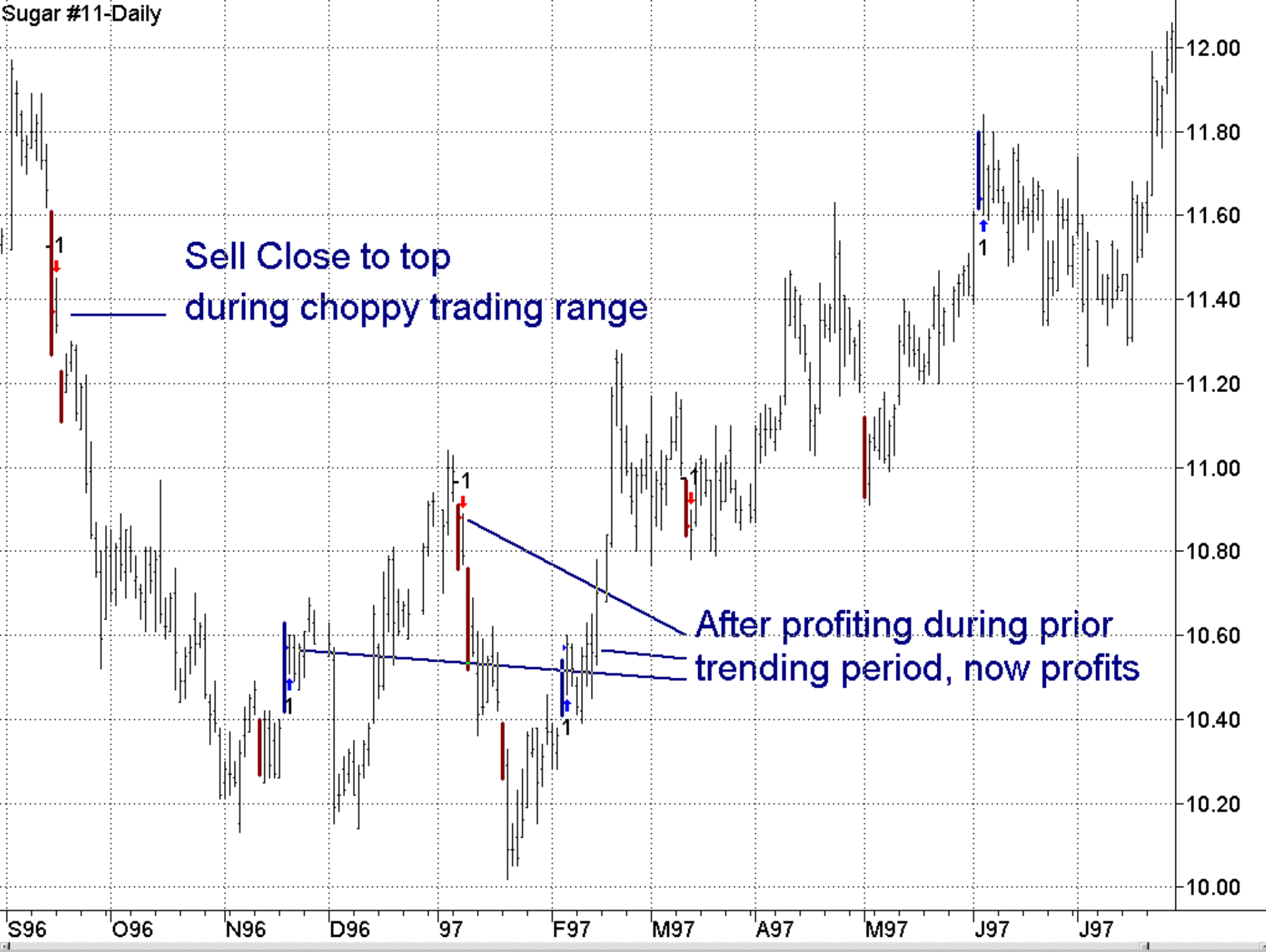
Note: No new signals
on gaps in direction of
existing position



Sugar #11-Daily

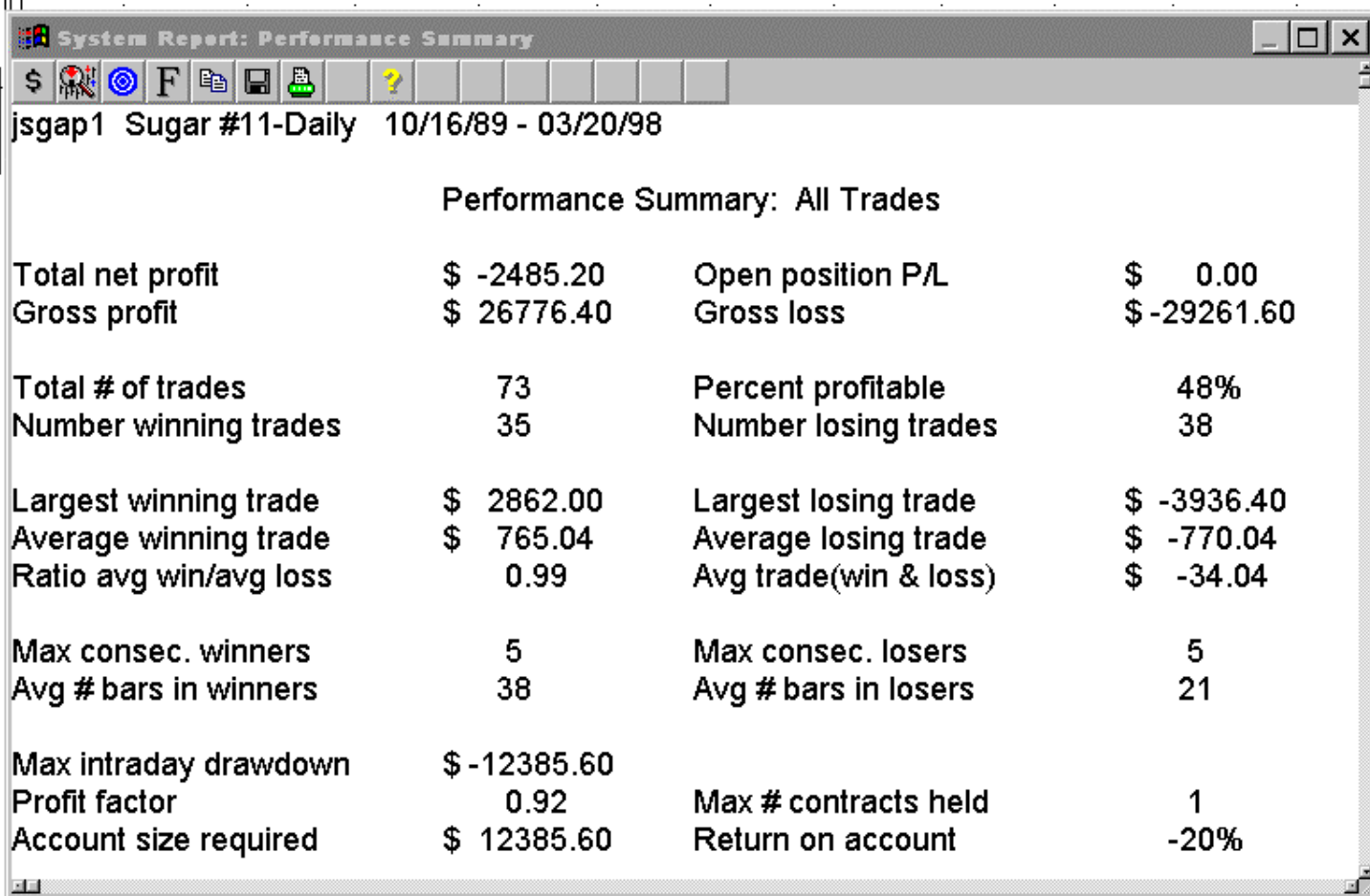




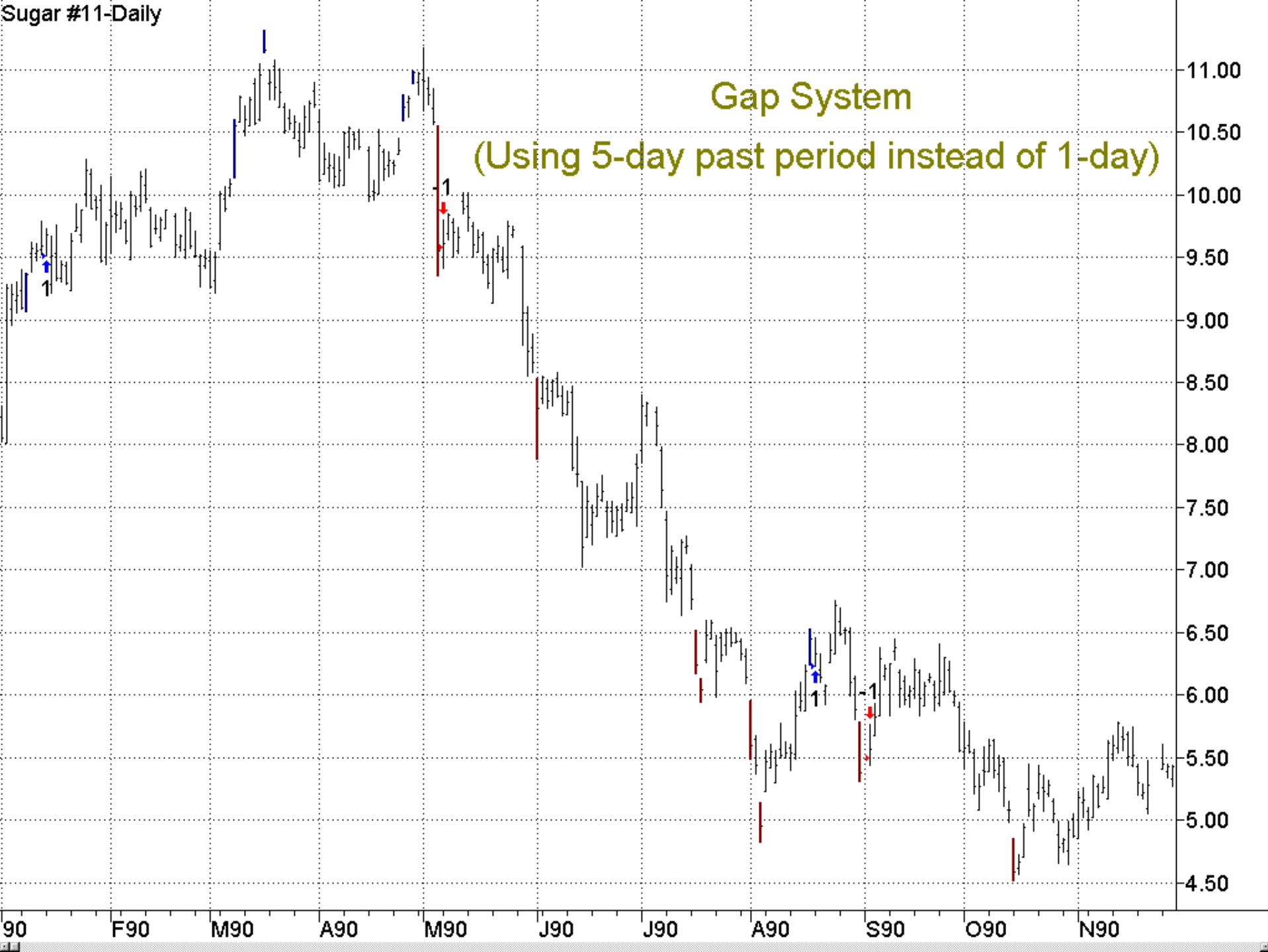




Gap System (1-day)



Sugar #11-Daily

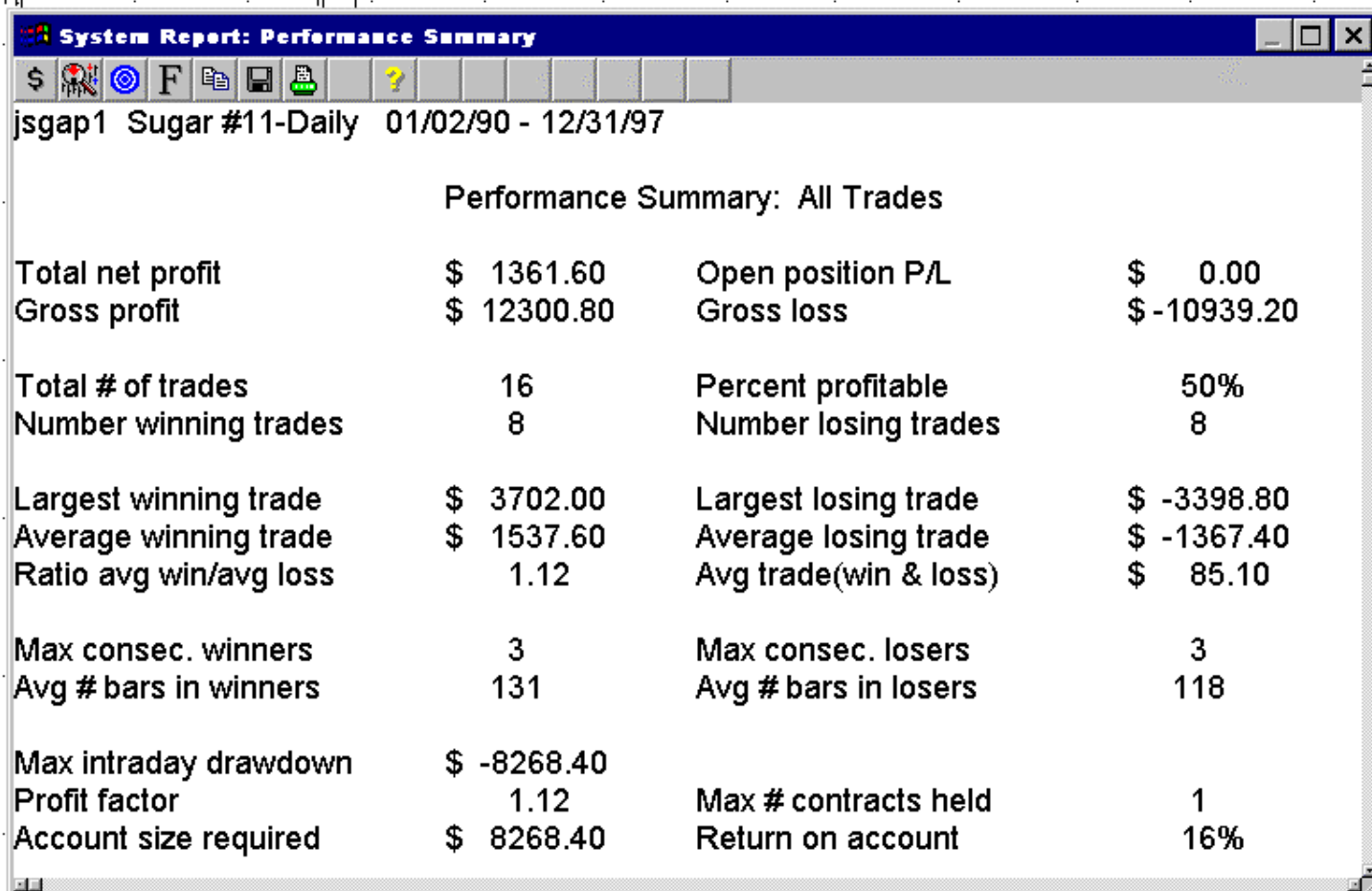


1-day gap but not 5-day gap



Gap System

(using 5-day past period instead of 1-day)



Gap System

(using 5-day past period instead of 1-day)

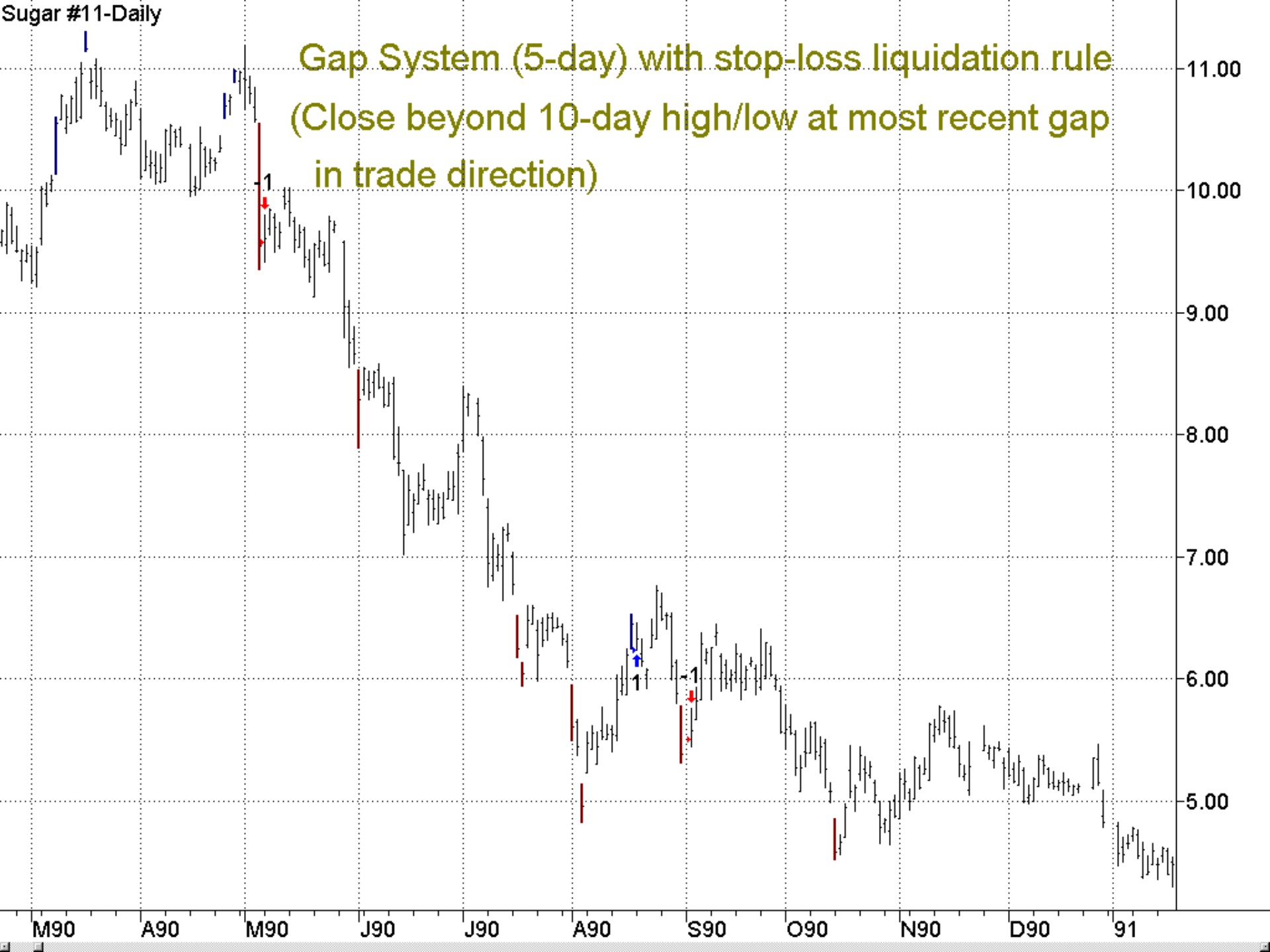
System Report: Trade by Trade

jsgap1 Sugar #11-Daily 01/02/90 - 12/31/97

Date	Time	Type	Cnts	Price	Signal Name	Entry P/L	Cumulative
04/08/93		Sell	1	7.56			
04/26/93		SExit	1	8.83		\$ -1472.40	\$ 966.40
04/26/93		Buy	1	8.83			
07/13/93		LExit	1	5.84		\$ -3398.80	\$ -2432.40
07/13/93		Sell	1	5.84			
07/18/94		SExit	1	6.76		\$ -1080.40	\$ -3512.80
07/18/94		Buy	1	6.76			
01/16/95		LExit	1	9.08		\$ 2548.40	\$ -964.40
01/16/95		Sell	1	9.08			
09/28/95		SExit	1	8.00		\$ 1159.60	\$ 195.20
09/28/95		Buy	1	8.00			
03/27/96		LExit	1	10.35		\$ 2582.00	\$ 2777.20
03/27/96		Sell	1	10.35			
06/04/97		SExit	1	11.64		\$ -1494.80	\$ 1282.40
06/04/97		Buy	1	11.64			



Gap System (5-day) with stop-loss liquidation rule
 (Close beyond 10-day high/low at most recent gap
 in trade direction)

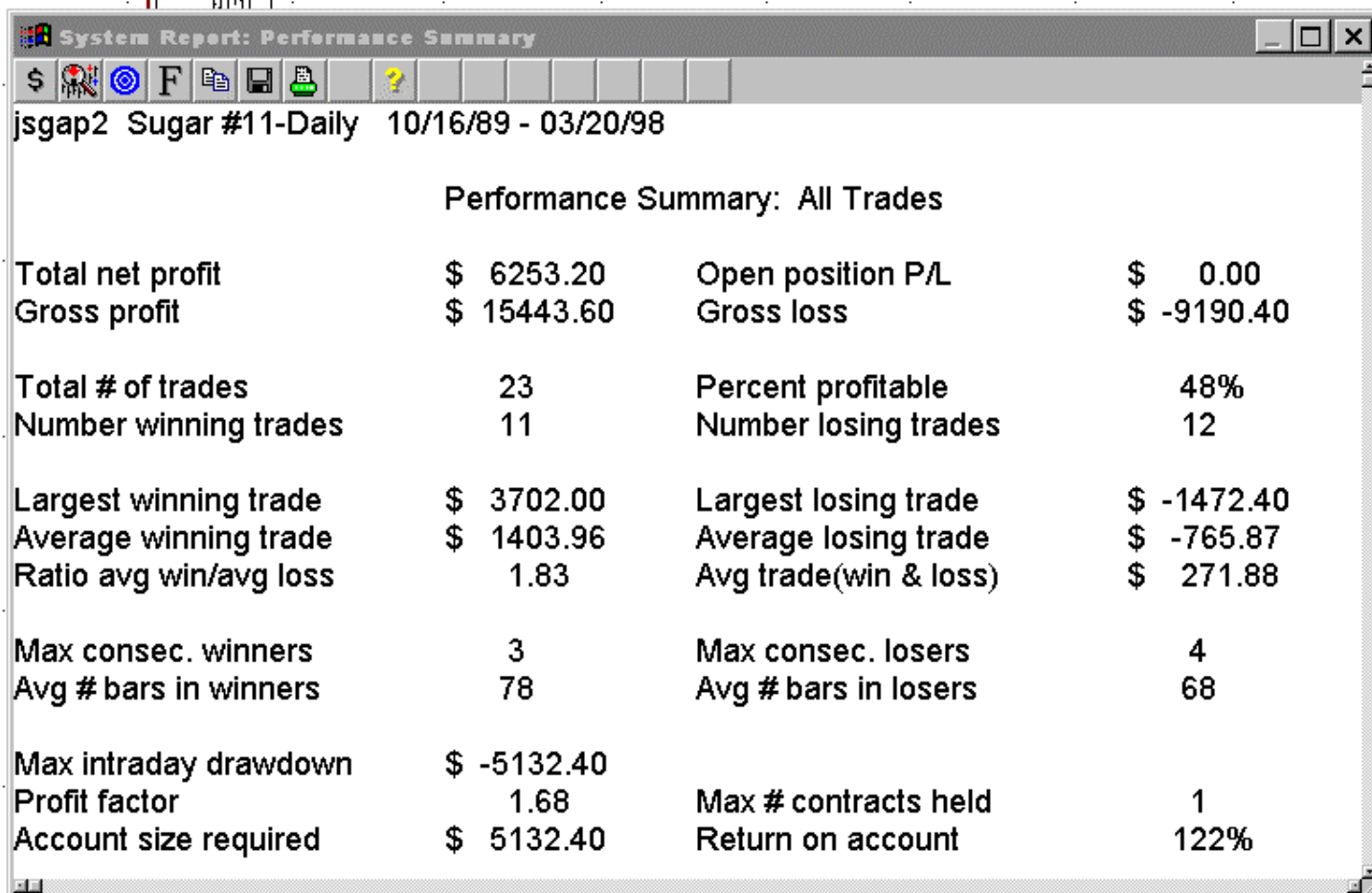


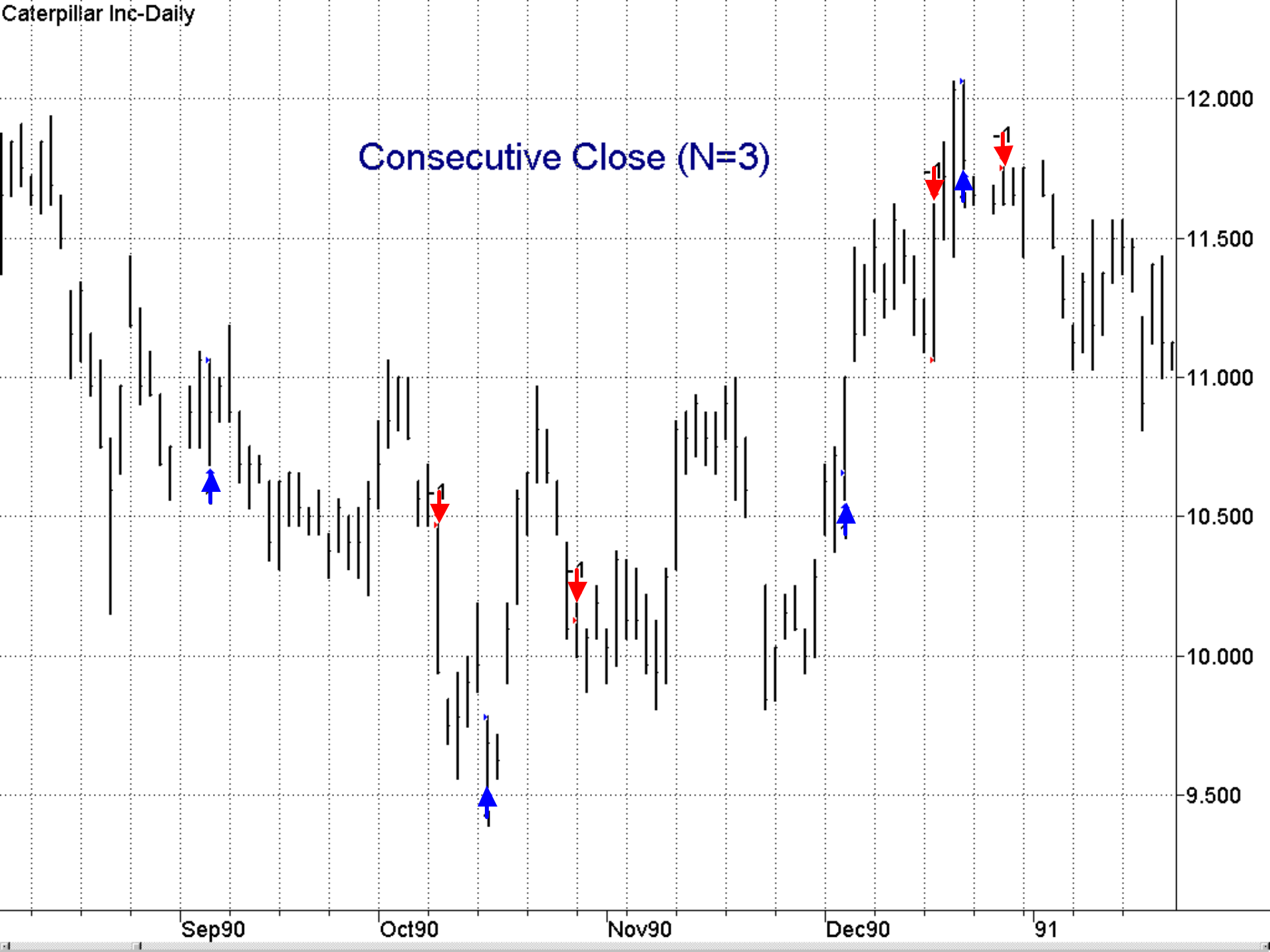


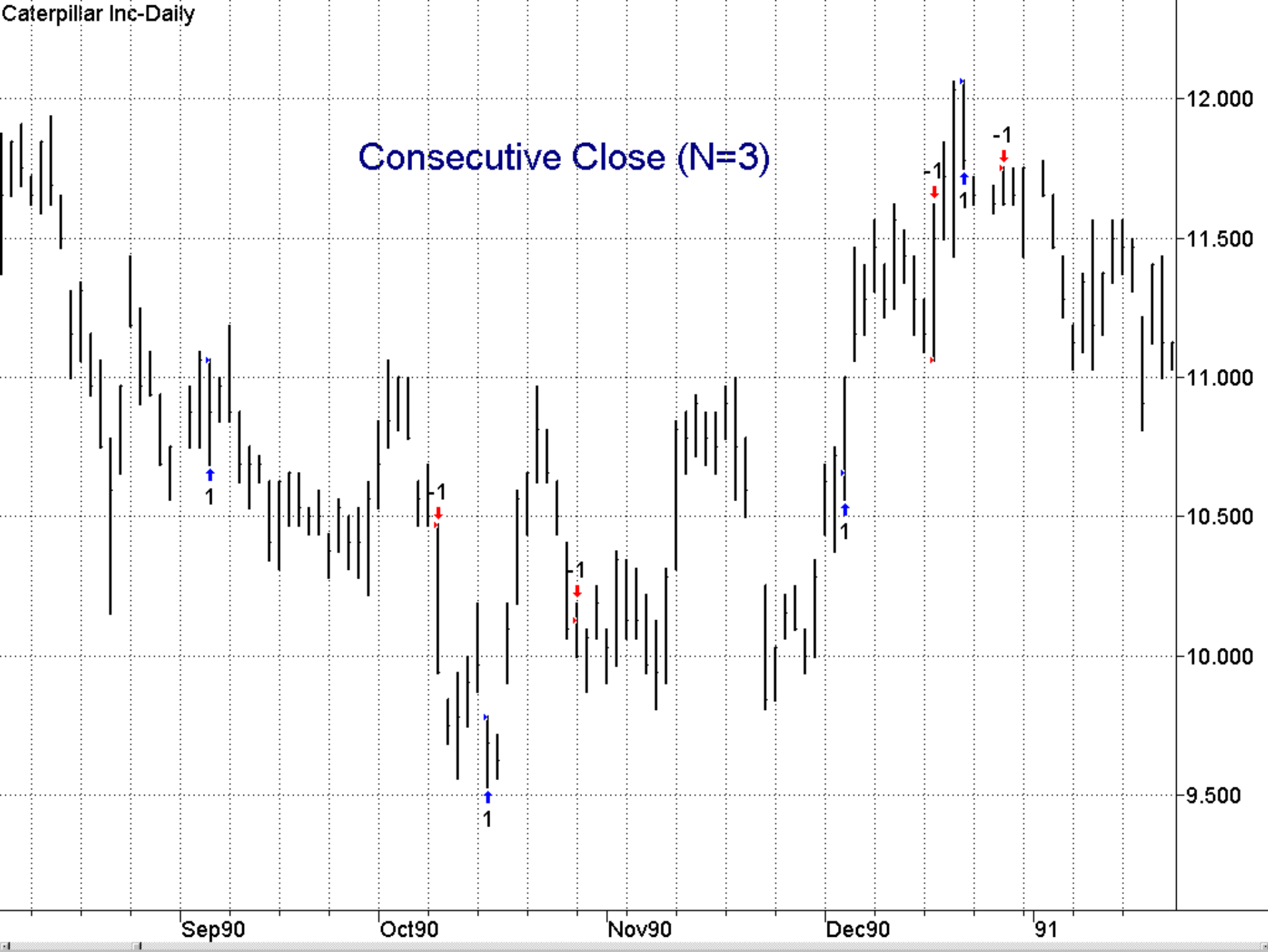




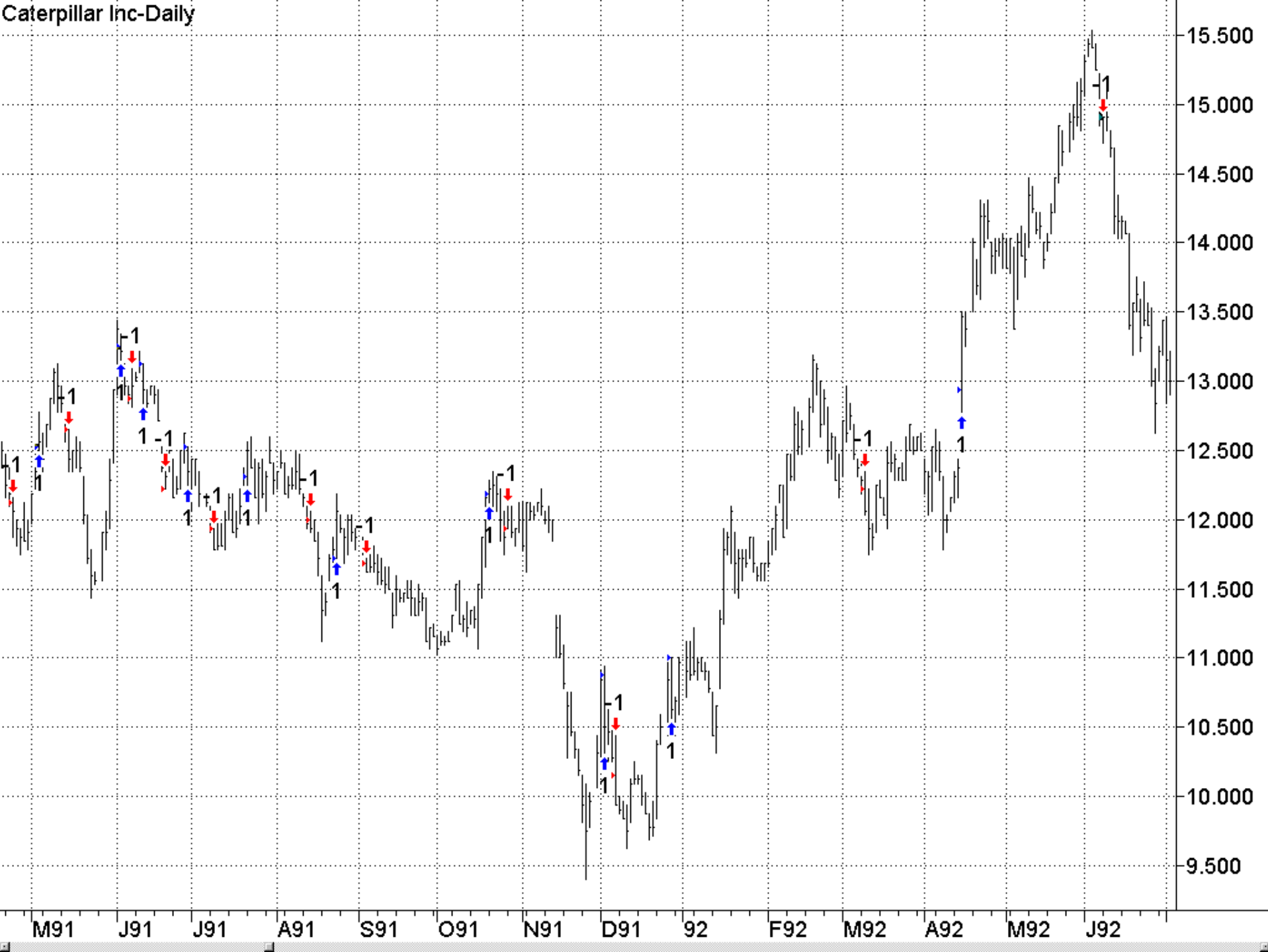
Gap System (5-day) with stop-loss liquidation rule (Close beyond 10-day high/low at most recent gap in trade direction)







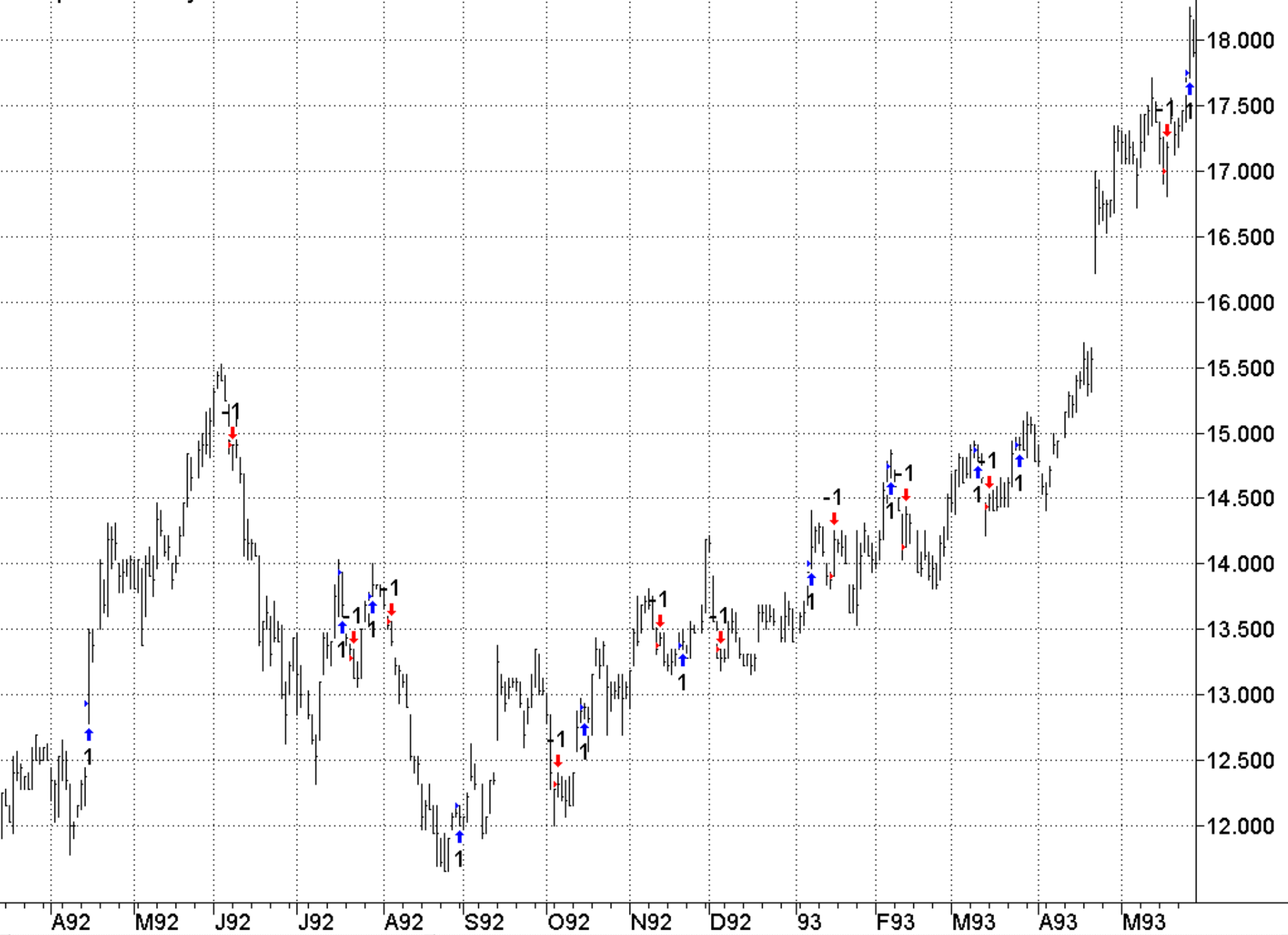
Caterpillar Inc-Daily



Caterpillar Inc-Daily

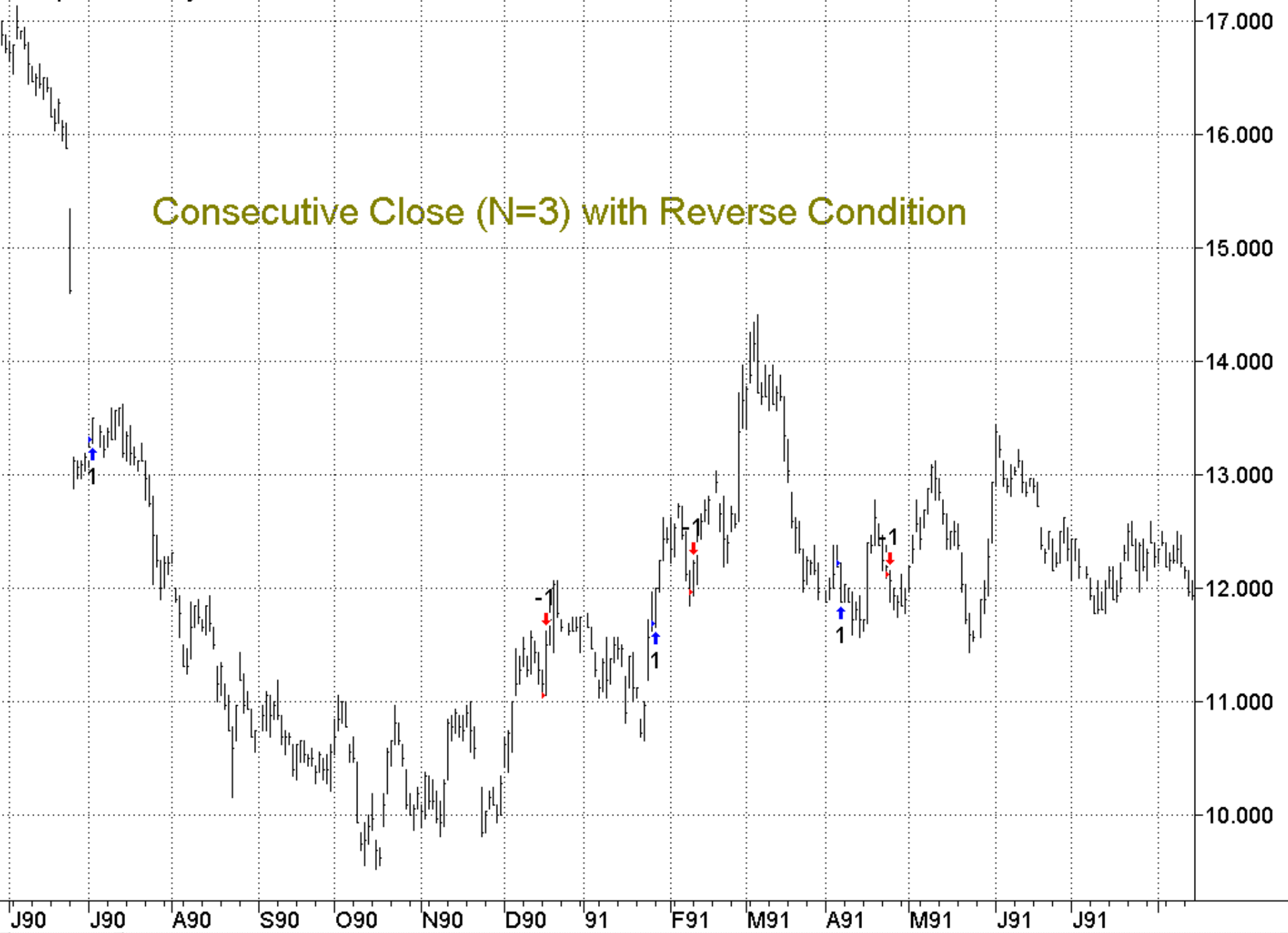


Caterpillar Inc-Daily



Consecutive Close (N=3)

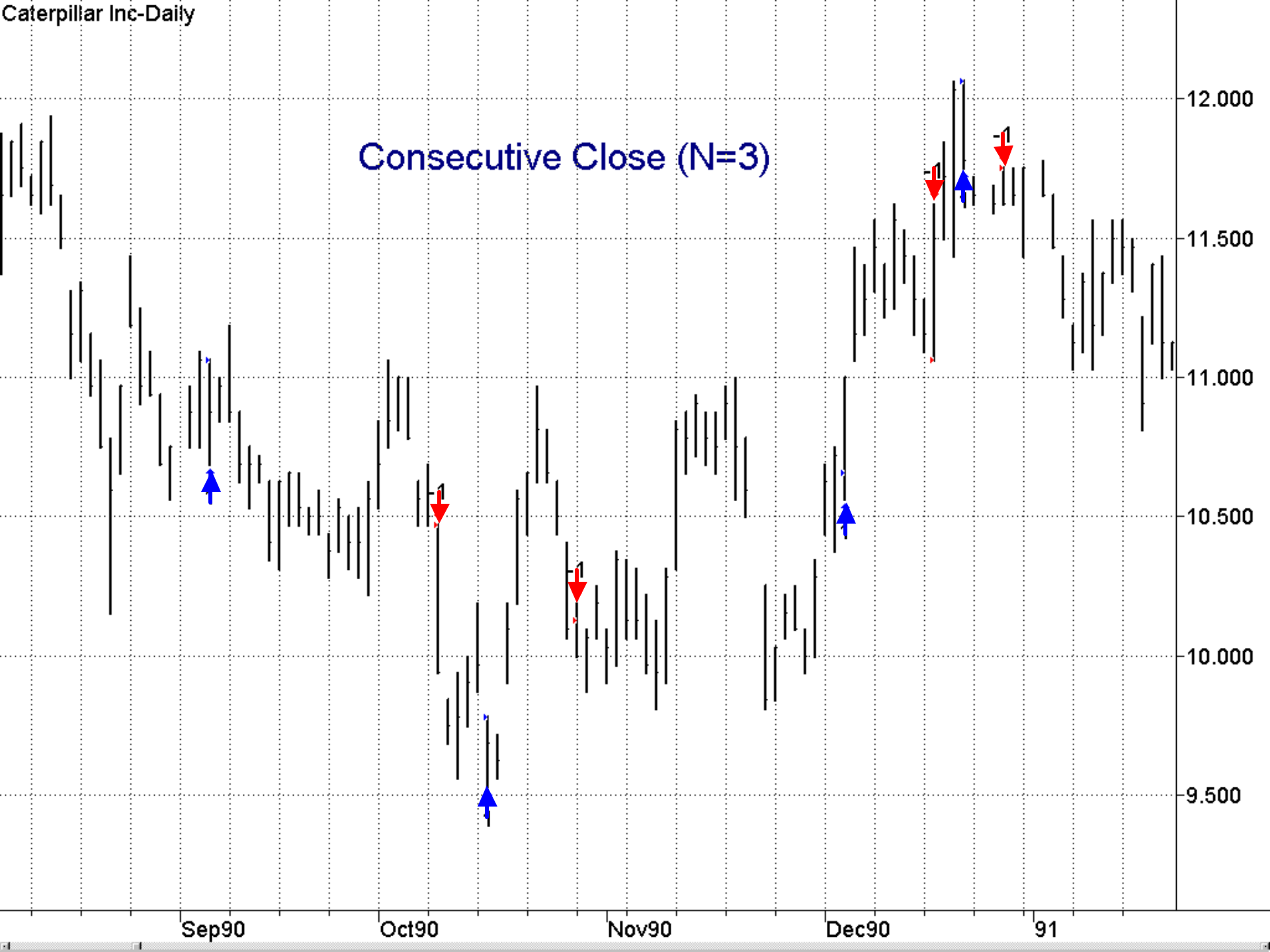










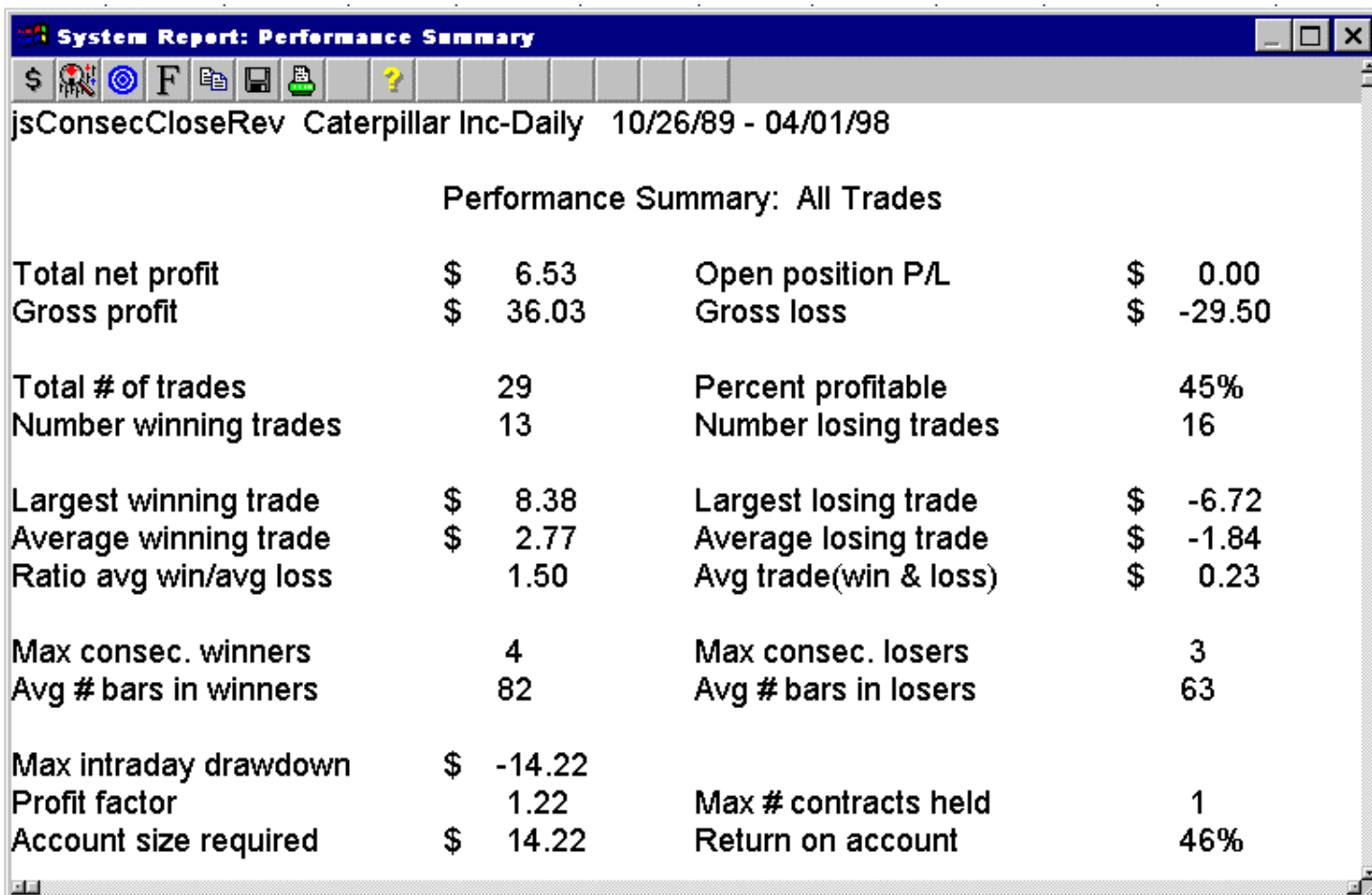


Consecutive Close (N=3)



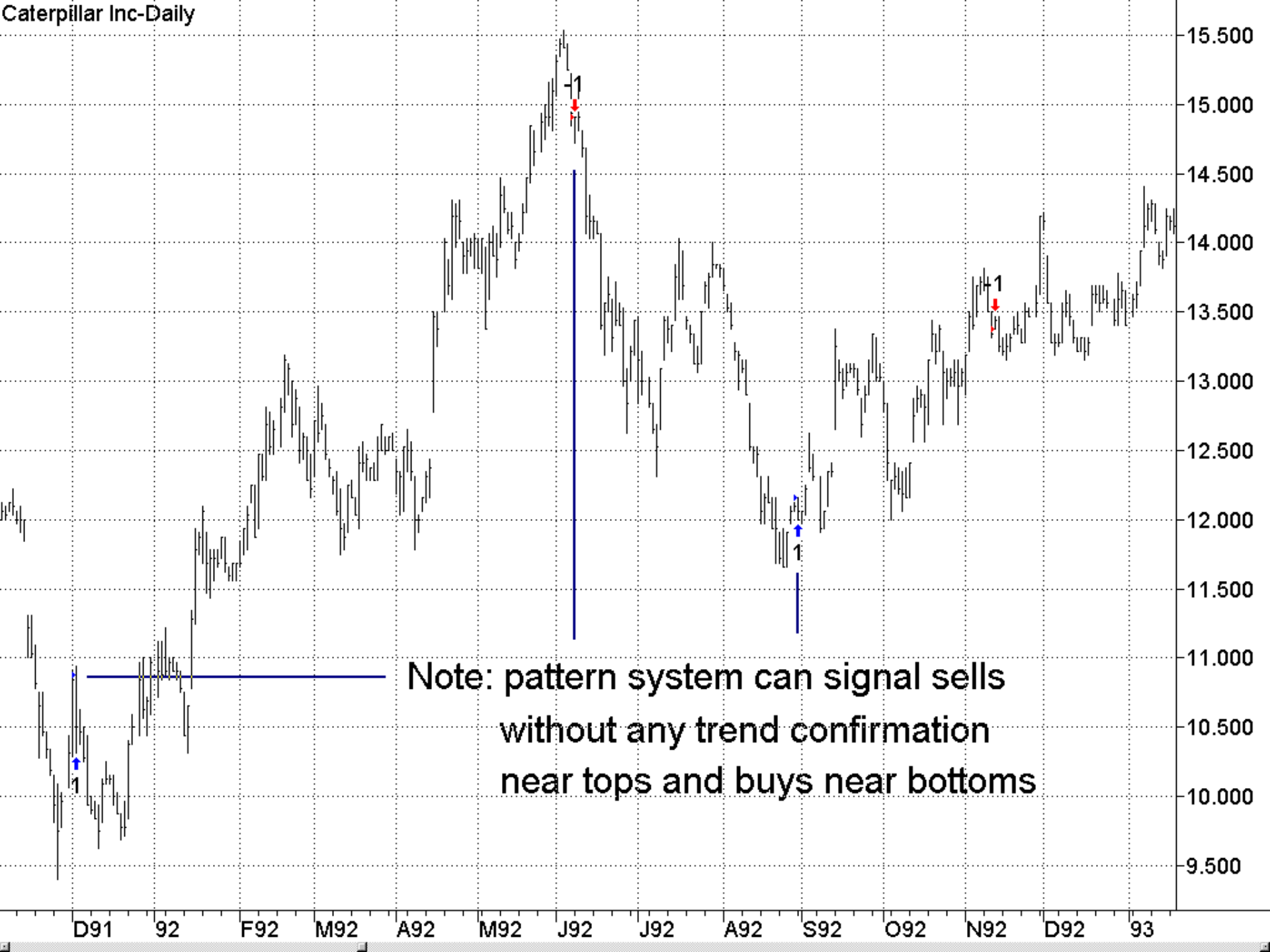
J90 A90 S90 O90 N90 D90 91 F91 M91 A91 M91 J91 J91 A91

Consecutive Close (N=3) with Reverse Condition



Caterpillar Inc-Daily

Note: pattern system can signal sells without any trend confirmation near tops and buys near bottoms



Note: pattern system can signal sells without any trend confirmation near tops and buys near bottoms

Consecutive Close (N=3) with Reverse Condition







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Consecutive Close with Reverse Cond. & Liq. Rule



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